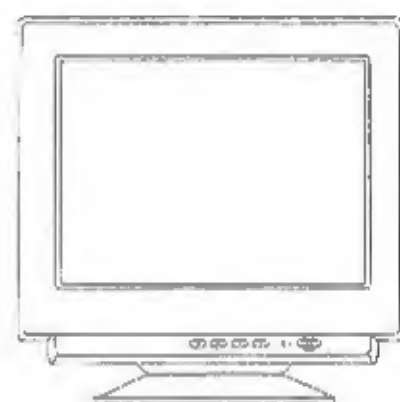


Service Manual

MODEL V773-1M / -1E V773-6M / -6E
(M-1734QU-M / -E M-1734QU-NM / NE)

Please file and use this manual together
with the service manual for Model 1769GS-2.
Order No. FTD960305329

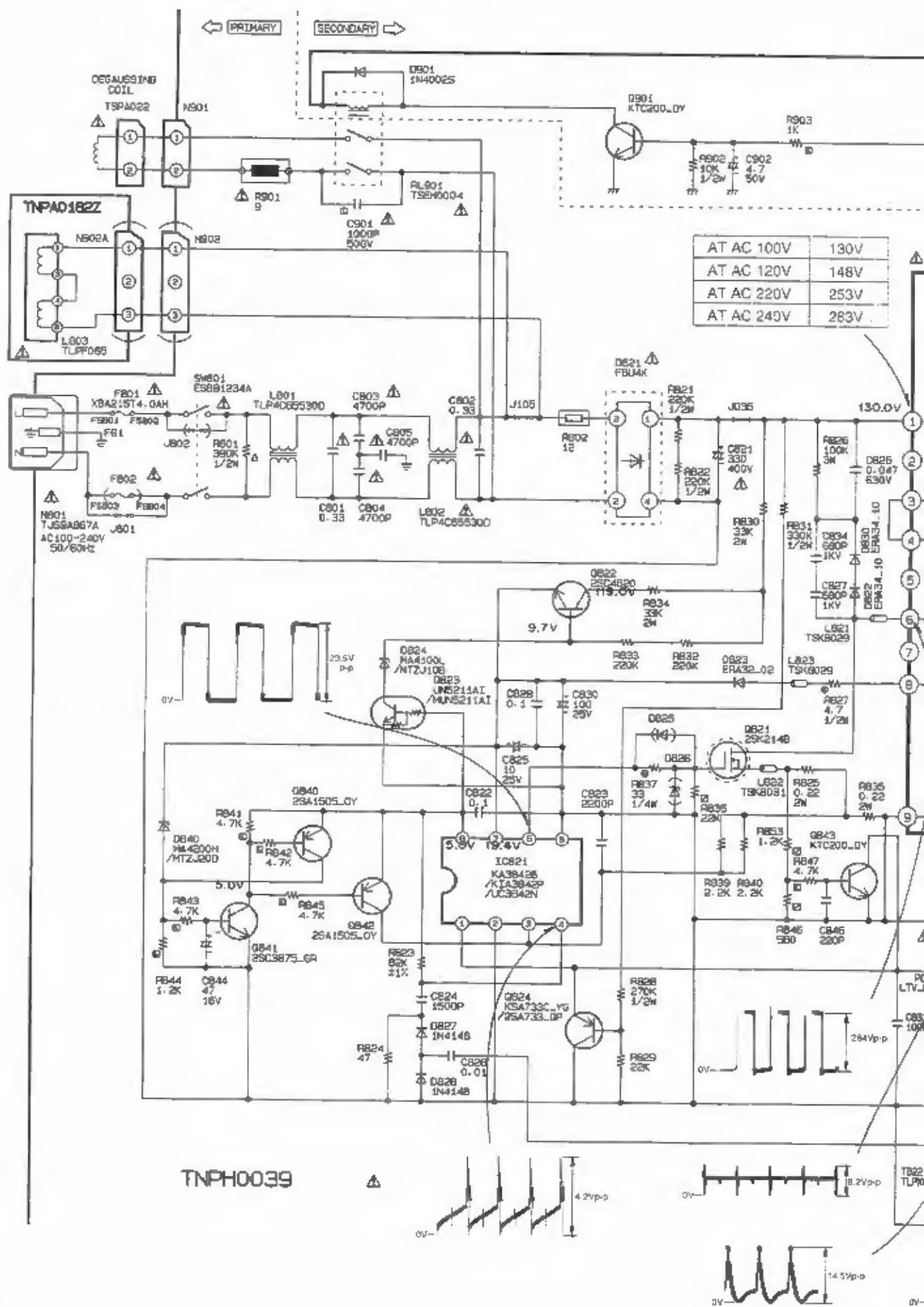


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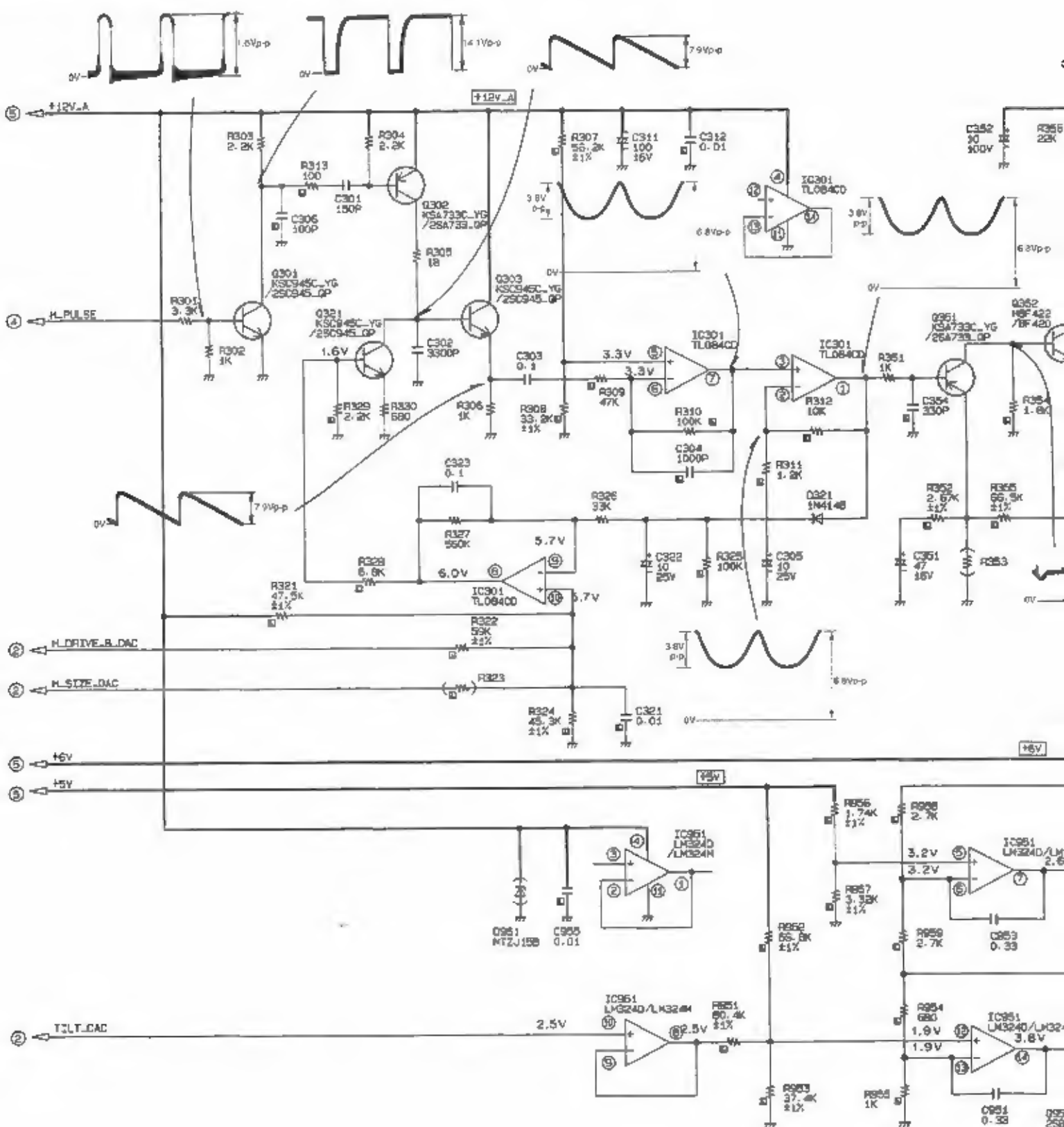
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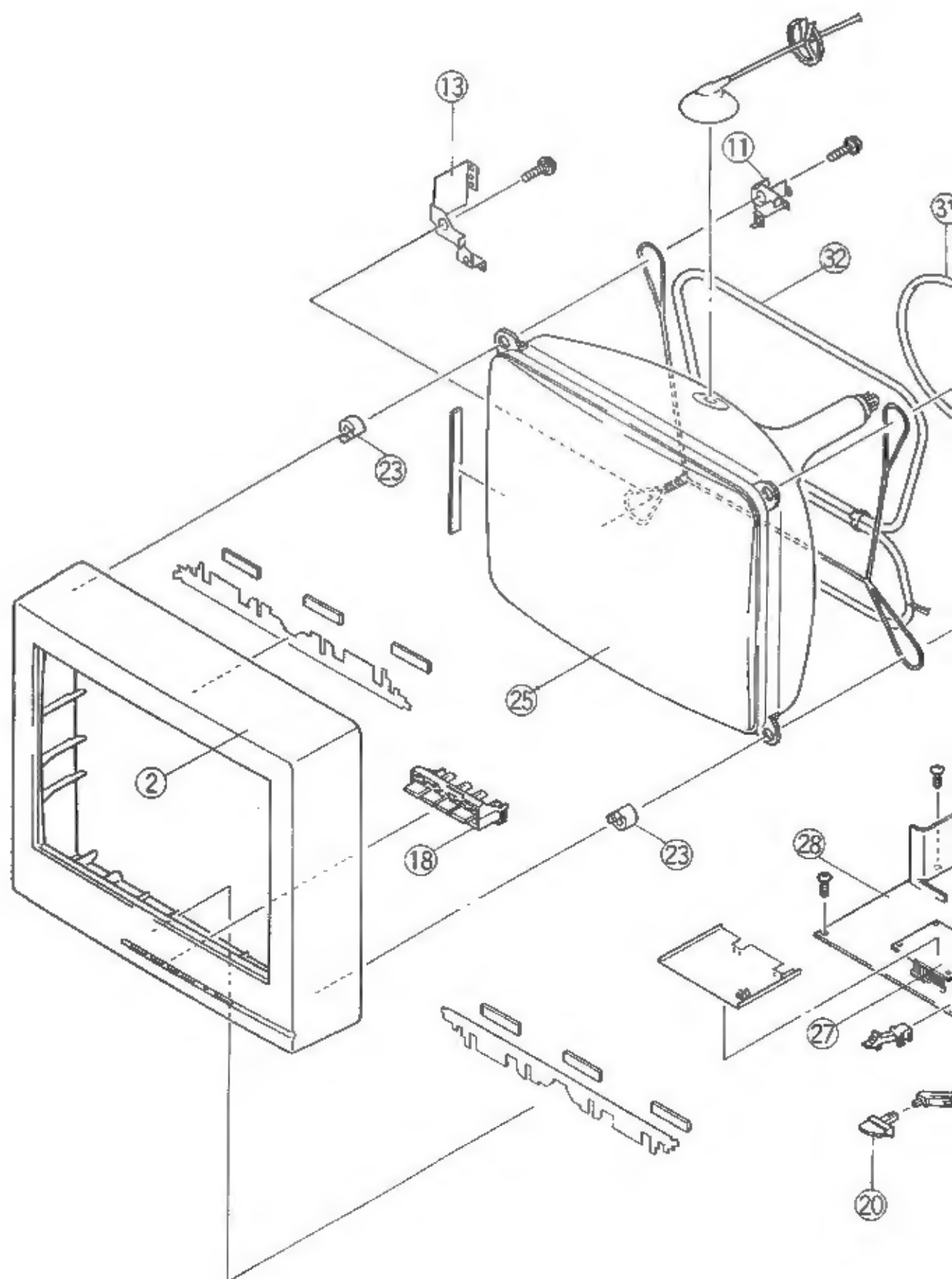
ViewSonic

*INPUT SIGNAL 1024×768 75Hz

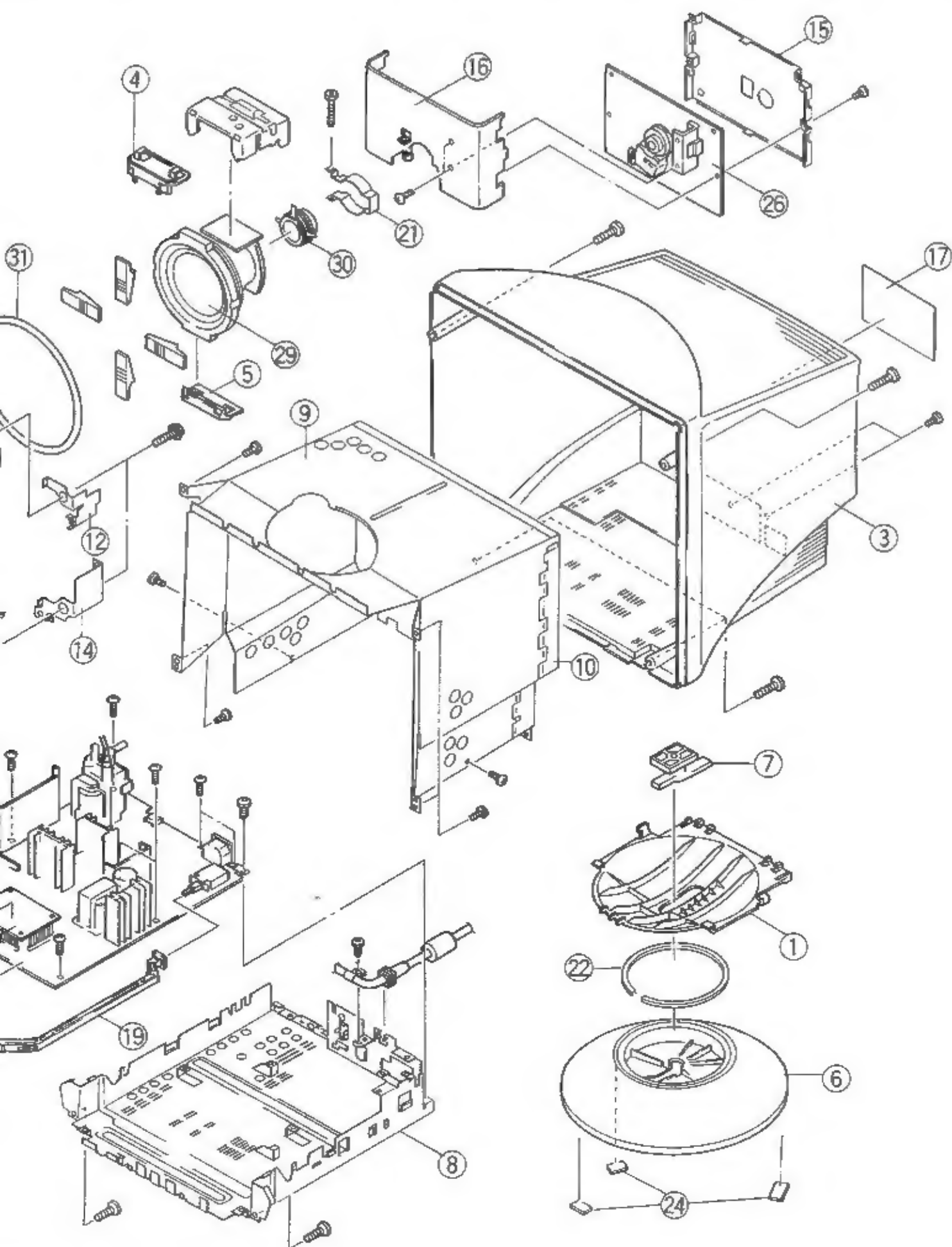


*INPUT SIGNAL 1024×768 75Hz





EXPLODED VIEW



REPLACEMENT PARTS LIST

Important: Safety Notice

Components identified by the international symbol  have special characteristics important for safety. When replacing any of these components use only manufacture's specified parts



RESISTOR

























PART NAME & DESCRIPTION			
TYPE		ALLOWANCE	
C	Carbon	F	± 1%
F	Fuse	J	± 5%
M	Metal Oxide	K	± 10%
S	Solid	M	± 20%
W	Wire Wound	G	± 2%

Part No. Description
Example ERD25TJ104  100K  1/4W

CAPACITOR

PART NAME & DESCRIPTION			
TYPE		ALLOWANCE	
C	Ceramic	C	± 0.25pF
E	Electrolytic	D	± 0.5pF
P	Polyester	F	± 1pF
S	Styrol	J	± 5%
T	Tantalum	K	± 10%
PP	Polypropylene	L	± 15%
		M	± 20%
		P	-100% - 0%
		Z	+80% - 20%

Part No. Description
Example ECKF1H103Z  0.01µF  50V

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
CABINET & MAIN PARTS			24	TMK84990	SET LEG
	1	TKYA01201A BOTTOM CABINET		TMK85572	FERRITE STICK
	2	TKEA01031 ESCUTCHEON<-NM>		THEC0019	SCREW(FOR CRT PCB HOLDER)
	2	TTEA01031-1 ESCUTCHEON<-M,-E>		THT1027	SCREW(FOR CRT)
		TKUC02102 REAR COVER		THT1069	SCREW(FOR SHIELD CASE)
	3	TKKC5019 LED GUIDE		XTN5-16A	SCREW
		TKKL5008 BLIND COVER		XTN5-25A	SCREW
	6	TKK859979-4 PEDESTAL		XTV3-8J	SCREW
	7	TKK859980 CENTER POST		KYA4-EF8	SCREW
	8	TUAA02801-4 BOTTOM PLATE		KYE3-EJ10	SCREW
	9	TUCC5071-2 SHIELD CASE	26	TNPA0182-22	PC BOARD W/COMPONENT(CRT)
	10	TUCC5072 SHIELD CASE(REAR)	27	TNPA0287-23	PC BOARD W/COMPONENT (MICRO COMPUTER)
	11	TUCC5167 EARTH METAL(R-UPPER)		TNPH0039-27	PC BOARD W/COMPONENT (MAIN)
	12	TUCC5168 EARTH METAL(L-UPPER)		32	TSPA022 DEGAUSS COIL
	13	TUCX5001 EARTH METAL(R-UNDER)		TSXA014	POWER CORD<-E>
	14	TUCX5002 EARTH METAL(L-UNDER)		TSXA051	POWER CORD<-M,-NM>
	15	TUSA007 SHIELD CASE(CRT PCB)		TSXF056	SIGNAL CORD
	16	TUSD003-1 SHIELD PLATE(CRT PCB)		TXA3A2D1734M	CRT EARTH LEAD
	17	TBMC720 MODEL NAME PLATE<-M,-E>		TSC8909-0	FERRITE CORE
	17	TBMC721 MODEL NAME PLATE<-NM>		XBA215T4.0AH	FUSE(4.0A)
	19	TBXA02104 POWER SWITCH SHAFT		T4F31519Q	POLYESTER TAPE(50M)
		TBXA04501 KNOB(CONTROL)		TPCA39801A	OUTER CARTON<-M,-E>
	20	TBXA04501 KNOB(POWER SWITCH)		TPCA39901	OUTER CARTON<-NM>
	21	TESA015 CRT PCB HOLDER		TXAPD2C1734T	FILLER(TOP)
		TESH011 SPRING(HEAT SINK)		TXAPD2M1734B	FILLER(BOTTOM)
		TES9148-4 SPRING(CRT EARTH)		TPE614109-2	SET COVER
	22	TMM15404-1 SPACER RING		QE8513-2	FUN BAG COVER
		TMM16452 LEAD CLAMPER(LONG)		QBE0119	INSTRUCTION BOOK<-M,-E>
		TMM17434-1 LEAD CLAMPER(SHORT)		QBE0118	INSTRUCTION BOOK<-NM>
		TMM6463 CLAMPER(MIDDLE)		QDE14012	REGISTRATION CARD<-M>
		TMM7468 CLAMPER		QFA322	PTB LABEL(INNER)
	23	TMMB5576-1 CRT RUBBER		QFA343	BAR CODE LABEL
		TMKE031 BARRIER		QF80720	NHW LABEL
		TMKG032 CRT RUBBER		QF82980	HIGH VOLTAGE LABEL
		TMKG074 CUSHION		QF83825-6	SERIAL NO. LABEL

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
A	TQF85363-1	CARTON LABEL<-M>	Q595	UN5211AI	TRANSISTOR
	TQF85363-8	CARTON LABEL<-E>	Q596	UN5211AI	TRANSISTOR
	TQF86608	EARTH CAUTION LABEL	Q597	2SB792R	TRANSISTOR
	I.C		Q598	2SD1273APL8	TRANSISTOR
IC101	TV5A0048	IC	Q671	UN5211AI	TRANSISTOR
IC102	24LC08BT15N	IC	Q672	UN5211AI	TRANSISTOR
IC103	MB88346BPFTF	IC	Q673	KTC3265-OY	TRANSISTOR
IC104	MB88346BPFTF	IC	Q674	KTA1298-OY	TRANSISTOR
IC121	24LC21T15N	IC	Q675	2SK1917FS1	TRANSISTOR
IC270	LM2931CMX	IC	Q771	2SD602R	TRANSISTOR
IC271	MM74HC00MX	IC	Q821	2SK2148	TRANSISTOR
IC280	M52346SP	IC	Q822	2SC4620V25	TRANSISTOR
IC301	LF347MX	IC	Q823	UN5211AI	TRANSISTOR
IC401	STV9379	IC	Q824	2SA733Q	TRANSISTOR
IC501	TDA9103	IC	Q840	2SA1505-OY	TRANSISTOR
IC521	LM358MX	IC	Q841	2SC3876-GR	TRANSISTOR
IC720	UPC1406MA	IC	Q842	2SA1505-OY	TRANSISTOR
IC721	LM324MX	IC	Q843	KTC200-OY	TRANSISTOR
IC821	UC3842N	IC	Q850	2SC3876-GR	TRANSISTOR
IC882	L78LRO5C-MA	IC	Q863	2SB1548Q	TRANSISTOR
IC870	LM324MX	IC	Q864	2SC3202-OY	TRANSISTOR
IC951	LM324MX	IC	Q865	2SB1548Q	TRANSISTOR
IC1301	LM1281N	IC	Q866	2SC3202-OY	TRANSISTOR
IC1302	LM2419T	HYBRID IC	Q868	UN5211AI	TRANSISTOR
IC1304	KIA78505P	IC	Q869	UN5211AI	TRANSISTOR
IC1331	LM358MX	IC	Q870	2SB1548Q	TRANSISTOR
IC1381	LM358MX	IC	Q871	2SC3202-OY	TRANSISTOR
IC1401	STV9422	IC	Q873	UN5211AI	TRANSISTOR
TRANSISTORS			Q874	KTC200-OY	TRANSISTOR
Q101	UN5111AI	TRANSISTOR	Q876	UN5211AI	TRANSISTOR
Q111	UN5111AI	TRANSISTOR	Q885	2SB1434R	TRANSISTOR
Q112	UN5211AI	TRANSISTOR	Q886	2SC3876-OY	TRANSISTOR
Q207	2SC945Q	TRANSISTOR	Q888	UN5211AI	TRANSISTOR
Q220	2SA1739R	TRANSISTOR	Q889	2SC1473AR	TRANSISTOR
Q221	2SC3811R	TRANSISTOR	Q890	UN5211AI	TRANSISTOR
Q275	UN5211AI	TRANSISTOR	Q891	UN5211AI	TRANSISTOR
Q279	UN5211AI	TRANSISTOR	Q901	KTC200-OY	TRANSISTOR
Q286	UN5111AI	TRANSISTOR	Q951	2SD1994AR	TRANSISTOR
Q287	UN5211AI	TRANSISTOR	Q952	2SB1322AR	TRANSISTOR
Q301	2SC945Q	TRANSISTOR	Q953	2SD1994AR	TRANSISTOR
Q302	2SA733Q	TRANSISTOR	Q954	2SB1322AR	TRANSISTOR
Q303	2SC945Q	TRANSISTOR	Q1051	2SA1767Q	TRANSISTOR
Q321	2SC945Q	TRANSISTOR	Q1052	2SC1473AR	TRANSISTOR
Q351	2SA733Q	TRANSISTOR	Q1151	2SA1767Q	TRANSISTOR
Q352	2SC1473AR	TRANSISTOR	Q1152	2SC1473AR	TRANSISTOR
Q353	2SC3902S	TRANSISTOR	Q1251	2SA1767Q	TRANSISTOR
Q354	2SA1507S	TRANSISTOR	Q1252	2SC1473AR	TRANSISTOR
Q371	2SC1473AR	TRANSISTOR	Q1340	2SC3811R	TRANSISTOR
Q379	2SC3876-OY	TRANSISTOR	Q1341	UN5211AI	TRANSISTOR
Q521	2SD2058-GR	TRANSISTOR	Q1362	2SA1767Q	TRANSISTOR
Q522	2SK2015Z	TRANSISTOR	Q1380	2SA733Q	TRANSISTOR
Q551	2SC52430Q2FD	TRANSISTOR	Q1381	UN5211AI	TRANSISTOR
Q561	UN5211AI	TRANSISTOR	Q1401	UN5211AI	TRANSISTOR
Q562	2SK2350	TRANSISTOR	DIODES		
Q564	UN5211AI	TRANSISTOR	D108	RB706F40	DIODE
Q565	2SK2350	TRANSISTOR	D111	SML1816W	DIODE (LED)
Q581	2SD2058-GR	TRANSISTOR	D151	MTZJ5R6B	DIODE
Q582	2SB1548Q	TRANSISTOR	D152	MTZJ5R6B	DIODE
Q591	2SD1149R	TRANSISTOR	D156	MTZJ5R6B	DIODE
Q594	UN5211AI	TRANSISTOR	D157	MA728	DIODE
			D169	MA142MK	DIODE

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
D185	1SS353	DIODE	D863	TV5RG2	DIODE
D186	1SS353	DIODE	D864	RL4Z	DIODE
D187	1SS353	DIODE	D865	RL2Z	DIODE
D188	1SS353	DIODE	D870	RN3Z014-305	DIODE
D201	MA4056NM	DIODE	D875	MA4082NL	DIODE
D202	MA4056NM	DIODE	D901	1N4002S	DIODE
D203	MA4056NM	DIODE	D946	10DF6	DIODE
D204	MA4056NM	DIODE	D100	MA151K	DIODE
D205	MA152K	DIODE	D102	MA151K	DIODE
D206	MA152K	DIODE	D1051	MA167A	DIODE
D210	MA700	DIODE	D1101	MA151K	DIODE
D220	1N4148	DIODE	D1102	MA151K	DIODE
D221	1N4148	DIODE	D1151	MA167A	DIODE
D271	1SS353	DIODE	D1201	MA151K	DIODE
D272	1SS353	DIODE	D1202	MA151K	DIODE
D273	1SS353	DIODE	D1251	MA167A	DIODE
D281	1SS353	DIODE	D1331	1N4148	DIODE
D321	1N4148	DIODE	D1332	1N4148	DIODE
D352	1N4148	DIODE	D1341	MA151K	DIODE
D401	1N4001S	DIODE	D1342	MA151K	DIODE
D403	1SS353	DIODE	D1343	MA151K	DIODE
D410	1N4148	DIODE	D1362	1N4148	DIODE
D411	MA4051NM	DIODE	D1365	MA4051NM	DIODE
D421	1N4148	DIODE	D1366	MA4051NM	DIODE
D501	MA700	DIODE	D1367	MA4051NM	DIODE
D521	MA4150NM	DIODE	D1380	MA4082NL	DIODE
D522	1N4148	DIODE	D1381	EU02Z	DIODE
D523	MA30WA	DIODE	D1382	ERA18-Q4	DIODE
D530	MA4051NM	DIODE	D1385	ERA1502	DIODE
D551	FMP-3FU	DIODE	D1401	MT2J5R6B	DIODE
D552	RP3FO14-302	DIODE	D1403	MT2J5R6B	DIODE
D553	TV5RG2A	DIODE	D1404	MT2J5R6B	DIODE
D554	110Q04	DIODE	D141	ERA81004	DIODE
D555	EL1Z	DIODE	L601	MT2J1SC	DIODE
D581	10DF6	DIODE		COIL & TRANSFORMERS	
D584	10DF6	DIODE	D657	TSK8029	FERRITE CORE
D571	1SS353	DIODE	V112	EXCELSA35T	LC COMBINATION
D572	1SS353	DIODE	L180	ELEY561KA	PEAKING COIL
D573	1SS353	DIODE	L230	EXCELSR35S	LC COMBINATION
D581	ERC30-02	DIODE	L301	EXCELD35C	LC COMBINATION
D582	ERC30-02	DIODE	L555	TLH85820Z	COIL
D591	MA27WB	DIODE	L556	EXCELSA35T	LC COMBINATION
D614	ERA1506	DIODE	L558	TL-4E001	COIL
D615	DTZTT112R7A	DIODE	L582	TLH85815T	COIL
D651	1N4148	DIODE	L591	TLUACNB220K	PEAKING COIL
D654	ERA34-10	DIODE	L602	EXCELSA35T	LC COMBINATION
D655	10DF6	DIODE	L801	TLP4065530D	LINE FILTER
D656	1N4148	DIODE	L802	TLP4065530D	LINE FILTER
D671	310F2	DIODE	L821	TSK8029	FERRITE CORE
D681	MA700	DIODE	L822	TSK8031	FERRITE CORE
D821	FBU4K	DIODE	L823	TSK8029	FERRITE CORE
D822	ERA34-10	DIODE	L824	EXCELSA35T	LC COMBINATION
D823	ERA3202	DIODE	L825	EXCELSA35T	LC COMBINATION
D824	MA4100NL	DIODE	L861	EXCELD35C	LC COMBINATION
D827	1N4148	DIODE	L862	EXCELD35C	LC COMBINATION
D828	1N4148	DIODE	L863	EXCELD35C	LC COMBINATION
D829	1SS353	DIODE	L864	EXCELD35C	LC COMBINATION
D830	ERA34-10	DIODE	L865	EXCELD35C	LC COMBINATION
D840	MA4200NH	DIODE	L870	EXCELD35C	LC COMBINATION
D850	MA4062NH	DIODE	L1051	TLTR47K186T	PEAKING COIL
D861	ERC3806	DIODE			
D862	FML-G14S	DIODE			

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
L1151	TLR33K186T	PEAKING COIL	C289	ECUX1H103K8G	C 0.01UF K 50V
L1251	TLR22K186T	PEAKING COIL	C290	ECLX1H471K8N	C 470PF K 50V
L1302	TSK8029	FERRITE CORE	C291	ECLX1H470JCG	C 47PF J 50V
L1303	TSK8029	FERRITE CORE	C292	ECLX1H470JCG	C 47PF J 50V
L1304	TSK8029	FERRITE CORE	C296	ECUX1H103K8G	C 0.01UF K 50V
L1305	EXCELD3R35C	LC COMBINATION	C301	ECCF1H151J	C 150PF J 50V
L1306	EXCELD3R35C	LC COMBINATION	C302	ECKF1H332KB	C 3300PF K 50V
L1307	TSK8029	FERRITE CORE	C303	ECQV1H104JL	P 0.1UF J 50V
L1308	EXCELD3R35C	LC COMBINATION	C304	ECUX1H102JCK	C 1000PF J 50V
L1351	TSK8029	FERRITE CORE	C305	ECEA1EGE100	E 10UF 25V
L1352	TSK8031	FERRITE CORE	C306	ECUX1H101JCG	C 100PF J 50V
L1361	TSK8029	FERRITE CORE	C311	ECEA1CGE101	E 100UF 16V
L1362	TSK8031	FERRITE CORE	C312	ECUX1H103K8G	C 0.01UF K 50V
L1371	TSK8029	FERRITE CORE	C321	ECUX1H103K8G	C 0.01UF K 50V
Δ T351	TLHG011	D.A.F. TRANSFORMER	C322	ECEA1EGE100	E 10UF 25V
Δ T521	TLH4C685407D	COIL	C323	ECQV1H104JL	P 0.1UF J 50V
Δ T501	BT39L914Z	FLYBACK TRANSFORMER	C351	ECEA1CGE470	E 47UF 16V
Δ T871	TLHX007	TRANSFORMER	C352	ECEA24GE100	E 10UF 100V
Δ T821	TLPA020	POWER TRANSFORMER	C353	ECQV1474JZ	P 0.47UF J 100V
Δ T822	TLX006	TRANSFORMER	C354	ECUX1H331K8N	C 330PF K 50V
CONTROL			C371	ECEA1EGE100	E 10UF 25V
VR551	EVND1A400B13	CONTROL B 1K OHM	C372	ECKD2H471KB5	C 470PF K 500V
VR551	EVND1A400B13	CONTROL B 1K OHM	C401	ECEA1EGN101	E 100UF 25V
CAPACITORS			C402	ECEA1VGE101	E 100UF 35V
C2	ECQB1H472JF	P 4700PF J 50V	C403	ECKF1H222KB	C 2200PF K 50V
C101	ECEA1AGE101	E 100UF 10V	C404	ECEA1EGE471	E 470UF 25V
C103	ECLX1H103K8G	C 0.01UF K 50V	C405	ECKF1H551KB	C 550PF K 50V
C104	ECUX1H103K8G	C 0.01UF K 50V	C406	ECQV1H104JL	P 0.1UF J 50V
C105	ECUX1H220JCN	C 22PF J 50V	C407	ECQV1H224JL	P 0.22UF J 50V
C106	ECUX1H220JCN	C 22PF J 50V	C408	ECUX1H333K8K	C 0.033UF K 50V
C107	ECUX1H103K8G	C 0.01UF K 50V	C409	ECUX1H150JCN	C 15PF J 50V
C108	ECEA1HGE010	E 1UF 50V	C421	ECUX1H330JCG	C 33PF J 50V
C109	ECUX1C1052FX	C 1UF Z 16V	C422	ECQV1H105JL	P 1UF J 50V
C110	ECUX1H221K8N	C 220PF K 50V	C423	ECQV1H154JL	P 0.15UF J 50V
C111	ECUX1H220JCN	C 22PF J 50V	C424	ECUX1H681JCK	C 680PF J 50V
C112	ECUX1H221K8N	C 220PF K 50V	C426	ECEA1CGE101	E 100UF 16V
C113	ECUX1C1052FX	C 1UF Z 16V	C427	ECUX1H103K8G	C 0.01UF K 50V
C121	ECUX1H103K8G	C 0.01UF K 50V	C430	ECEA1HGE010	E 1UF 50V
C175	ECUX1H103K8G	C 0.01UF K 50V	C431	ECEA1EGE100	E 10UF 25V
C177	ECUX1H103K8G	C 0.01UF K 50V	C432	ECUX1H1042FX	C 0.1UF Z 50V
C180	ECEA1AGE471	E 470UF 10V	C433	ECUX1H103K8G	C 0.01UF K 50V
C186	ECUX1H102K8N	C 1000PF K 50V	C501	ECQB1H103JF	P 0.01UF J 50V
C186	ECUX1H102K8N	C 1000PF K 50V	C502	ECQV1H104JL	P 0.1UF J 50V
C201	ECEA1HGE2R2	E 2.2UF 50V	C504	ECUX1H820JCG	C 82PF J 50V
C203	ECUX1H102K8N	C 1000PF K 50V	C505	ECEA1CGE101	E 100UF 16V
C206	ECQE2104KF	P 0.1UF K 200V	C506	ECQP1H681GZ	PP 680PF G 50V
C230	ECUX1H103K8G	C 0.01UF K 50V	C507	ECUX1H472K8G	C 4700PF K 50V
C231	EEUFC1A221	E 220UF 10V	C508	ECEA1CGE470	E 47UF 16V
C234	ECUX1H470JCG	C 47PF J 50V	C509	ECQV1H224JL	P 0.22UF J 50V
C270	EEAFC1C560	E 56UF 16V	C512	ECUX1H1042FX	C 0.1UF Z 50V
C279	ECUX1H221K8N	C 220PF K 50V	C513	ECEA1CGE102	E 1000UF 16V
C280	ECQV1H474JL	P 0.47UF J 50V	C514	ECQV1H105JL	P 1UF J 50V
C281	ECUX1H472K8G	C 4700PF K 50V	C521	ECUX1H103K8G	C 0.01UF K 50V
C282	ECEA1HGE010	E 1UF 50V	C522	ECUX1H102JCK	C 1000PF J 50V
C283	ECEA1HGE2R2	E 2.2UF 50V	C523	ECEA1EGE221	E 220UF 25V
C284	ECEA1HGE010	E 1UF 50V	C524	ECKD2H332KB5	C 3300PF K 500V
C285	ECEA1HGER47	E 0.47UF 50V	C525	ECEA1VGE470	E 47UF 35V
C286	ECUX1H333K8K	C 0.033UF K 50V	C532	ECUX1H103K8G	C 0.01UF K 50V
C287	ECUX1H102K8N	C 1000PF K 50V	C545	ECEA1EGE100	E 10UF 25V
C288	ECUX1H102K8N	C 1000PF K 50V	C551	ECWF15H472HN	PP 4700PF H 1.5KV
			C552	ECKD3F821JBP	C 820PF J 3KV
			C553	ECQF6272JZ	PP 2700PF J 600V

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
C554	ECQF6182J2	PP 1800PF J 600V	C834	ECKD3A6B-KBP	C 680PF K 1KV
C558	ECKD3A102KBP	C 1000PF K 1KV	C844	ECEA1CGE470	E 47UF 16V
C559	ECWF2274JB	PP 0.27UF J 200V	C846	ECDF1H221J	C 220PF J 50V
C560	ECWF2274JB	PP 0.27UF J 200V	C851	ECQB1H473JF	P 0.047UF J 50V
C561	ECUX1H103KBG	C 0.01UF M 50V	C852	ECUX1H273KBX	C 0.027UF K 50V
C562	ECUX1H473ZFX	C 0.047UF Z 50V	C860	ECUX1C474ZFX	C 0.47UF Z 16V
C563	ECWF2244JB	PP 0.24UF J 200V	C861	ECEA2AGE221	E 220UF 100V
C564	ECUX1H103KBG	C 0.01UF K 50V	C862	EEUFC1J821	E 820UF 63V
C565	ECUX1H473ZFX	C 0.047UF Z 50V	C863	ECEA1VGE471	E 470UF 35V
C566	ECWF2105JB	PP 1UF J 200V	C864	ECEA1EGE222	E 2200UF 25V
C571	ECUX1H102JCX	C 1000PF J 50V	C865	ECEA1CGE332	E 3300UF 16V
C576	ECUX1H104ZFX	C 0.1UF Z 50V	C867	ECQV1H104JL	P 0.1UF J 50V
C581	ECEA1CGE471	E 470UF 16V	C868	ECEA1EGE100	E 10UF 25V
C582	ECEA1CGE471	E 470UF 16V	C870	ECEA1EGE102	E 1000UF 25V
C583	ECUX1H102KBN	C 1000PF K 50V	C871	ECEA1CGE101	E 100UF 16V
C584	ECQV1H684JL	P 0.68UF J 50V	C872	ECEA1VGE331	E 330UF 35V
C587	ECQE2224KF	P 0.22UF K 200V	C874	ECEA1CGE221	E 220UF 16V
C588	ECQE2274KF	P 0.27UF K 200V	C875	ECEA1EGE100	E 10UF 25V
C589	ECKF1H222KB	C 2200PF K 50V	C876	ECEA1EGE100	E 10UF 25V
C591	ECUX1H222KBN	C 2200PF K 50V	C878	ECQB1H103JF	P 0.01UF J 50V
C592	ECKD2H332KBS	C 3300PF K 500V	C879	ECQB1H682JF	P 6800PF J 50V
C593	ECQE1335KF	P 3.3UF K 100V	C901	TACCJ102P500	C 1000PF 500V
C591	ECEA2CGE2R2	E 2.2UF 160V	C902	ECEA1H5E4R7	E 4.7UF 50V
C594	ECKD2H103KBS	C 0.01UF K 500V	C946	ECEA2CGE330	E 33UF 160V
C595	ECEA2EGE100	E 10UF 250V	C951	ECQV1H334JL	P 0.33UF J 50V
C598	ECEA2AGE220	E 22UF 100V	C952	ECEA1HGE4R7	E 4.7UF 50V
C571	ECKD2H221KBS	C 220PF K 500V	C953	ECQV1H334JL	P 0.33UF J 50V
C572	TAC1102Z221A	E 220UF 200V	C954	ECEA1HGE4R7	E 4.7UF 50V
C573	ECUX1H220JCN	C 22PF J 50V	C955	ECUX1H103KBG	C 0.01UF K 50V
C574	ECUX1H392LCW	C 3900PF J 50V	C1001	ECEA1EGE100	E 10UF 25V
C580	ECUX1H222KBN	C 2200PF K 50V	C1002	ECUX1H104ZFX	C 0.1UF Z 50V
C583	ECUX1H102JCX	C 1000PF J 50V	C1003	ECUX1E224ZFX	C 0.22UF Z 25V
C585	ECUX1H103KBG	C 0.01UF K 50V	C1004	ECUX1C105ZFX	C 1UF Z 16V
C586	ECQB2223KF	P 0.022UF K 200V	C1005	ECUX1H150JCN	C 15PF J 50V
C587	TACCJ102P200	C 1000PF 200V	C1051	ECQV1334JM	P 0.33UF J 100V
C598	ECUX1H103JCX	C 1000PF J 50V	C1052	ECKD2H102KBS	C 1000PF K 500V
C599	ECUX1H104ZFX	C 0.1UF Z 50V	C1053	ECQB103KF	P 0.01UF K 100V
C707	ECEA1EGE100	E 10UF 25V	C1054	ECUX1H104ZFX	C 0.1UF Z 50V
C718	ECEA1EGE100	E 10UF 25V	C1055	ECQB1683KF	P 0.068UF K 100V
C725	ECEA1EGE100	E 10UF 25V	C1056	ECUX1H103KBG	C 0.01UF K 50V
C726	ECEA1EGE100	E 100UF 25V	C1101	ECEA1EGE100	E 10UF 25V
C727	ECUX1E563KBC	C 0.056UF K 25V	C1102	ECUX1H104ZFX	C 0.1UF Z 50V
C728	ECUX1H103KBG	C 0.01UF K 50V	C1103	ECUX1E224ZFX	C 0.22UF Z 25V
C770	ECUX1C225ZFW	C 2.2UF Z 16V	C1104	ECUX1C105ZFX	C 1UF Z 16V
△ C801	ECQU2A334MVZ	PP 0.33UF M 250V	C1105	ECUX1H050CCN	C 5PF C 50V
△ C802	ECQU2A334MVZ	PP 0.33UF M 250V	C1151	ECQV1334JM	P 0.33UF J 100V
△ C803	ECKDRS472ME	C 4700PF M 500V	C1152	ECKD2H102KBS	C 1000PF K 500V
△ C804	ECKDRS472ME	C 4700PF M 500V	C1153	ECQB103KF	P 0.01UF K 100V
△ C805	ECKDRS472ME	C 4700PF M 500V	C1154	ECUX1H104ZFX	C 0.1UF Z 50V
C821	TAC1094Z331A	E 330UF 400V	C1155	ECQB1683KF	P 0.068UF K 100V
C822	ECQV1H104JL	P 0.1UF J 50V	C1156	ECUX1H103KBG	C 0.01UF K 50V
C823	ECKF1H222KB	C 2200PF K 50V	C1201	ECEA1EGE100	E 10UF 25V
C824	ECQB1H152JF	P 1500PF J 50V	C1202	ECUX1H104ZFX	C 0.1UF Z 50V
C825	ECEA1EGE100	E 10UF 25V	C1203	ECUX1E224ZFX	C 0.22UF Z 25V
C826	ECQE6473KF	P 0.047UF K 600V	C1204	ECUX1C105ZFX	C 1UF Z 16V
C827	ECKD3A6B1KBP	C 680PF K 1KV	C1205	ECUX1H050CCN	C 5PF C 50V
C828	ECQB1H103JF	P 0.01UF J 50V	C1251	ECQV1334JM	P 0.33UF J 100V
C829	ECQV1H104JL	P 0.1UF J 50V	C1252	ECKD2H102KBS	C 1000PF K 500V
C830	ECEA1EGE101	E 100UF 25V	C1253	ECQB103KF	P 0.01UF K 100V
△ C831	ECKDRS222ME	C 2200PF M 500V	C1254	ECUX1H104ZFX	C 0.1UF Z 50V
△ C832	ECKDRS222ME	C 2200PF M 500V	C1255	ECQB1683KF	P 0.068UF K 100V
C833	ECDF1H101J	C 100PF J 50V	C1256	ECUX1H103KBG	C 0.01UF K 50V

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
C1301	ECEA1CGE101	E 100UF 16V	J704	ERJ8GCVOR00	M 0 OHM 1/8W
C1302	ECUX1H103KBG	C 0.01UF K 50V	J705	ERJ8GCVOR00	M 0 OHM 1/8W
C1303	ECUX1H104ZFX	C 0.1UF Z 50V	J706	ERJ8GCVOR00	M 0 OHM 1/8W
C1304	ECUX1E224ZFX	C 0.22UF Z 25V	J707	ERJ8GCVOR00	M 0 OHM 1/8W
C1305	ECUX1H103KBG	C 0.01UF K 50V	J708	ERJ8GCVOR00	M 0 OHM 1/8W
C1306	ECUX1H103KBG	C 0.01UF M 50V	J709	ERJ8GCVOR00	M 0 OHM 1/8W
C1307	ECEA1EGE100	E 10UF 25V	J710	ERJ8GCVOR00	M 0 OHM 1/8W
C1308	ECUX1E224ZFX	C 0.22UF Z 25V	J711	ERJ8GCVOR00	M 0 OHM 1/8W
C1310	ECEA1CGE221	E 220UF 16V	J712	ERJ8GCVOR00	M 0 OHM 1/8W
C1312	ECEA2AGE101	E 100UF 100V	J713	ERJ8GCVOR00	M 0 OHM 1/8W
C1313	ECQV1H104JM	P 0.1UF J 100V	J714	ERJ8GCVOR00	M 0 OHM 1/8W
C1314	ECQV1H104JL	P 0.1UF J 50V	J715	ERJ8GCVOR00	M 0 OHM 1/8W
C1315	TACCU1Q3P200	C 0.01UF 200V	J716	ERJ8GCVOR00	M 0 OHM 1/8W
C1320	ECQV1H104JL	P 0.1UF J 50V	J717	ERJ8GCVOR00	M 0 OHM 1/8W
C1321	ECEA2CGE2R2	E 2.2UF 60V	J718	ERJ8GCVOR00	M 0 OHM 1/8W
C1324	ECKD2H471KBS	C 470PF K 500V	J719	ERJ8GCVOR00	M 0 OHM 1/8W
C1327	TACCU1Q3P200	C 0.01UF 200V	J720	ERJ8GCVOR00	M 0 OHM 1/8W
C1328	TACCU1Q3P200	C 0.01UF 200V	J721	ERJ8GCVOR00	M 0 OHM 1/8W
C1329	TACCU1Q3P200	C 0.01UF 200V	J722	ERJ8GCVOR00	M 0 OHM 1/8W
C1331	ECUX1E224ZFX	C 0.22UF Z 25V	J723	ERJ8GCVOR00	M 0 OHM 1/8W
C1332	ECUX1E224ZFX	C 0.22UF Z 25V	J724	ERJ8GCVOR00	M 0 OHM 1/8W
C1333	ECUX1H103KBG	C 0.01UF K 50V	J725	ERJ8GCVOR00	M 0 OHM 1/8W
C1334	TCUX2H101JCM	C 100PF J 500V	J728	ERJ8GCVOR00	M 0 OHM 1/8W
C1338	ECKD2H222KBS	C 2200PF K 500V	J729	ERJ8GCVOR00	M 0 OHM 1/8W
C1341	ECUX1H221JCG	C 220PF J 50V	J730	ERJ8GCVOR00	M 0 OHM 1/8W
C1361	ECKD2H472KBS	C 4700PF K 500V	J731	ERJ8GCVOR00	M 0 OHM 1/8W
C1362	ECKD2H100D	C 10PF M 500V	J732	ERJ8GCVOR00	M 0 OHM 1/8W
C1370	ECKD2H102KBS	C 1000PF K 500V	J733	ERJ8GCVOR00	M 0 OHM 1/8W
C1371	ECKD3D272KBP	C 2700PF K 2KV	J734	ERJ8GCVOR00	M 0 OHM 1/8W
C1380	ECEA1CGE470	E 47UF 16V	J735	ERJ8GCVOR00	M 0 OHM 1/8W
C1381	ECUX1H103KBG	C 0.01UF K 50V	J736	ERJ8GCVOR00	M 0 OHM 1/8W
C1382	TACCU1Q2P200	C 1000PF 200V	J737	ERJ8GCVOR00	M 0 OHM 1/8W
C1401	ECEA1HGE010	E 10UF 50V	J738	ERJ8GCVOR00	M 0 OHM 1/8W
C1402	ECUX1H104ZFX	C 0.1UF Z 50V	J739	ERJ8GCVOR00	M 0 OHM 1/8W
C1403	ECEA1EGE100	E 10UF 25V	J740	ERJ8GCVOR00	M 0 OHM 1/8W
C1406	ECUX1H332KBN	C 3300PF K 50V	J741	ERJ8GCVOR00	M 0 OHM 1/8W
C1410	ECUX1H220JCN	C 22PF J 50V	J742	ERJ8GCVOR00	M 0 OHM 1/8W
RESISTORS					
C102	ERJ6GEYJ472	M 4.7K OHM J 1/10W	J743	ERJ8GCVOR00	M 0 OHM 1/8W
J601	ERJ6GEYOR00	M 0 OHM 1/10W	J744	ERJ8GCVOR00	M 0 OHM 1/8W
J602	ERJ6GEYOR00	M 0 OHM 1/10W	J745	ERJ8GCVOR00	M 0 OHM 1/8W
J603	ERJ6GEYOR00	M 0 OHM 1/10W	J746	ERJ8GCVOR00	M 0 OHM 1/8W
J605	ERJ6GEYOR00	M 0 OHM 1/10W	J747	ERJ8GCVOR00	M 0 OHM 1/8W
J607	ERJ6GEYOR00	M 0 OHM 1/10W	J748	ERJ8GCVOR00	M 0 OHM 1/8W
J608	ERJ6GEYOR00	M 0 OHM 1/10W	J750	ERJ8GCVOR00	M 0 OHM 1/8W
J610	ERJ6GEYOR00	M 0 OHM 1/10W	J751	ERJ8GCVOR00	M 0 OHM 1/8W
J611	ERJ6GEYOR00	M 0 OHM 1/10W	J752	ERJ8GCVOR00	M 0 OHM 1/8W
J612	ERJ6GEYOR00	M 0 OHM 1/10W	J753	ERJ8GCVOR00	M 0 OHM 1/8W
J613	ERJ6GEYOR00	M 0 OHM 1/10W	J754	ERJ8GCVOR00	M 0 OHM 1/8W
J614	ERJ6GEYOR00	M 0 OHM 1/10W	J755	ERJ8GCVOR00	M 0 OHM 1/8W
J615	ERJ6GEYOR00	M 0 OHM 1/10W	J756	ERJ8GCVOR00	M 0 OHM 1/8W
J616	ERJ8GCVOR00	M 0 OHM 1/8W	J757	ERJ8GCVOR00	M 0 OHM 1/8W
J617	ERJ6GEYJ183	M 18K OHM J 1/10W	J758	ERJ8GCVOR00	M 0 OHM 1/8W
J618	ERJ6GEYOR00	M 0 OHM 1/10W	J759	ERJ8GCVOR00	M 0 OHM 1/8W
J619	ERJ6GEYOR00	M 0 OHM 1/10W	J761	ERJ8GCVOR00	M 0 OHM 1/8W
J620	ERJ6GEYOR00	M 0 OHM 1/10W	J762	ERJ8GCVOR00	M 0 OHM 1/8W
J621	ERJ6GEYOR00	M 0 OHM 1/10W	J763	ERJ8GCVOR00	M 0 OHM 1/8W
J622	ERJ6GEYOR00	M 0 OHM 1/10W	J764	ERJ8GCVOR00	M 0 OHM 1/8W
J701	ERJ8GCVOR00	M 0 OHM 1/8W	J767	ERJ8GCVOR00	M 0 OHM 1/8W
J702	ERJ8GCVOR00	M 0 OHM 1/8W	J768	ERJ8GCVOR00	M 0 OHM 1/8W
J703	ERJ8GCVOR00	M 0 OHM 1/8W	J770	ERJ8GCVOR00	M 0 OHM 1/8W
			J771	ERJ8GCVOR00	M 0 OHM 1/8W
			J772	ERJ8GCVOR00	M 0 OHM 1/8W

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
J775	ERJ8GCVOR00	M 0 OHM 1/8W	R206	ERJ6GEYJ103	M 10K OHM J 1/10W
J776	ERJ8GCVOR00	M 0 OHM 1/8W	R220	ERDS2TJ561	C 560 OHM J 1/4W
J777	ERJ8GCVOR00	M 0 OHM 1/8W	R221	ERJ6GEYJ103	M 10K OHM J 1/10W
J778	ERJ8GCVOR00	M 0 OHM 1/8W	R222	ERJ6GEYJ224	M 220K OHM J 1/10W
J779	ERJ8GCVOR00	M 0 OHM 1/8W	R224	ERJ6GEYJ472	M 4.7K OHM J 1/10W
J780	ERJ8GCVOR00	M 0 OHM 1/8W	R226	ERJ6GEYJ821	M 820 OHM J 1/10W
J781	ERJ8GCVOR00	M 0 OHM 1/8W	R227	ERDS2TJ102	C 1K OHM J 1/4W
J782	ERJ8GCVOR00	M 0 OHM 1/8W	R228	ERJ6GEYJ471	M 470 OHM J 1/10W
J783	ERJ8GCVOR00	M 0 OHM 1/8W	R261	ERJ6ENF2702	M 27K OHM F 1/10W
J784	ERJ8GCVOR00	M 0 OHM 1/8W	R262	ERJ6ENF2103	M 210K OHM F 1/10W
J785	ERJ8GCVOR00	M 0 OHM 1/8W	R271	ERJ6GEYJ102	M 1K OHM J 1/10W
J1105	ERJ8GCVOR00	M 0 OHM 1/8W	R272	ERJ6GEYJ122	M 1.2K OHM J 1/10W
L1001	ERJ8GCVOR00	M 0 OHM 1/8W	R273	ERJ6GEYJ103	M 10K OHM J 1/10W
L1101	ERJ8GCVOR00	M 0 OHM 1/8W	R274	ERJ6GEYJ103	M 10K OHM J 1/10W
L1201	ERJ8GCVOR00	M 0 OHM 1/8W	R275	ERJ6GEYJ102	M 1K OHM J 1/10W
R101	ERJ6GEYJ152	M 1.5K OHM J 1/10W	R276	ERJ6GEYJ102	M 1K OHM J 1/10W
R102	ERJ6GEYJ472	M 4.7K OHM J 1/10W	R278	ERJ6GEYJ562	M 5.6K OHM J 1/10W
R106	ERDS2TJ331	C 330 OHM J 1/4W	R279	ERJ6GEYJ103	M 10K OHM J 1/10W
R108	ERJ6GEYJ104	M 100K OHM J 1/10W	R280	ERJ6GEYJ151	M 150 OHM J 1/10W
R109	ERJ6ENF1782	M 17.8K OHM F 1/10W	R281	ERJ6GEYJ106	M 10M OHM J 1/10W
R110	ERJ6ENF5621	M 5.62K OHM F 1/10W	R282	ERJ6GEYJ152	M 1.5K OHM J 1/10W
R111	ERJ6ENF1182	M 11.8K OHM F 1/10W	R283	ERJ6GEYJ561	M 560 OHM J 1/10W
R112	ERJ6ENF3242	M 32.4K OHM F 1/10W	R284	ERJ6GEYJ562	M 5.6K OHM J 1/10W
R113	ERJ6ENF1782	M 17.8K OHM F 1/10W	R285	ERJ6GEYJ222	M 2.2K OHM J 1/10W
R114	ERJ6ENF1782	M 17.8K OHM F 1/10W	R286	ERJ6GEYJ562	M 5.6K OHM J 1/10W
R115	ERDS2TJ331	C 330 OHM J 1/4W	R287	ERJ6GEYJ392	M 3.9K OHM J 1/10W
R116	ERJ6ENF3242	M 32.4K OHM F 1/10W	R288	ERJ6GEYJ472	M 4.7K OHM J 1/10W
R119	ERJ6GEYJ102	M 1K OHM J 1/10W	R289	ERJ6GEYJ472	M 4.7K OHM J 1/10W
R121	ERJ6GEYJ103	M 10K OHM J 1/10W	R290	ERJ6GEYJ472	M 4.7K OHM J 1/10W
R122	ERJ8GCVJ331	M 330 OHM J 1/8W	R291	ERJ6GEYJ102	M 1K OHM J 1/10W
R123	ERJ6GEYJ473	M 47K OHM J 1/10W	R292	ERJ6GEYJ102	M 1K OHM J 1/10W
R124	ERJ8GCVJ331	M 330 OHM J 1/8W	R293	ERJ6GEYJ182	M 1.8K OHM J 1/10W
R126	ERJ8GCVJ331	M 330 OHM J 1/8W	R294	ERJ6GEYJ472	M 4.7K OHM J 1/10W
R151	ERJ6GEYJ103	M 10K OHM J 1/10W	R295	ERJ6GEYJ472	M 4.7K OHM J 1/10W
R154	ERJ6GEYOR00	M 0 OHM 1/10W	R296	ERJ6GEYJ104	M 100K OHM J 1/10W
R155	ERJ6GEYOR00	M 0 OHM 1/10W	R301	ERDS2TJ332	C 3.3K OHM J 1/4W
R156	ERJ6GEYOR00	M 0 OHM 1/10W	R302	ERDS2TJ102	C 1K OHM J 1/4W
R157	ERJ6GEYJ103	M 10K OHM J 1/10W	R303	ERDS2TJ222	C 2.2K OHM J 1/4W
R158	ERJ6GEYJ392	M 3.9K OHM J 1/10W	R304	ERDS2TJ222	C 2.2K OHM J 1/4W
R159	ERJ6GEYJ392	M 3.9K OHM J 1/10W	R305	ERDS2TJ180	C 18 OHM J 1/4W
R160	ERJ6GEYJ392	M 3.9K OHM J 1/10W	R306	ERDS2TJ102	C 1K OHM J 1/4W
R161	ERJ6GEYJ333	M 33K OHM J 1/10W	R307	ERJ6ENF5622	M 56.2K OHM F 1/10W
R165	ERJ6GEYJ103	M 10K OHM J 1/10W	R308	ERJ6ENF3322	M 33.2K OHM F 1/10W
R166	ERJ6GEYJ512	M 5.1K OHM J 1/10W	R309	ERJ6GEYJ473	M 47K OHM J 1/10W
R170	ERJ6GEYJ101	M 100 OHM J 1/10W	R310	ERJ6GEYJ104	M 100K OHM J 1/10W
R171	ERJ6GEYJ101	M 100 OHM J 1/10W	R311	ERJ6GEYJ122	M 1.2K OHM J 1/10W
R172	ERJ6GEYJ223	M 22K OHM J 1/10W	R312	ERJ6GEYJ103	M 10K OHM J 1/10W
R173	ERJ6GEYJ223	M 22K OHM J 1/10W	R313	ERJ6GEYJ101	M 100 OHM J 1/10W
R174	ERJ6GEYJ103	M 10K OHM J 1/10W	R321	ERJ6ENF4752	M 47.5K OHM F 1/10W
R175	ERJ8GCVJ101	M 100 OHM J 1/8W	R322	ERJ6ENF5902	M 59K OHM F 1/10W
R176	ERJ6GEYJ103	M 10K OHM J 1/10W	R324	ERJ6ENF4532	M 45.3K OHM F 1/10W
R177	ERJ6GEYJ471	M 470 OHM J 1/10W	R325	ERJ6GEYJ104	M 100K OHM J 1/10W
R178	ERJ8GCVJ101	M 100 OHM J 1/8W	R326	ERDS2TJ333	C 33K OHM J 1/4W
R179	ERJ8GCVJ101	M 100 OHM J 1/8W	R327	ERDS2TJ564	C 560K OHM J 1/4W
R184	ERJ6GEYJ471	M 470 OHM J 1/10W	R328	ERJ6GEYJ682	M 6.8K OHM J 1/10W
R185	ERJ6GEYOR00	M 0 OHM 1/10W	R329	ERJ6GEYJ222	M 2.2K OHM J 1/10W
R186	ERJ6GEYOR00	M 0 OHM 1/10W	R330	ERDS2TJ561	C 560 OHM J 1/4W
R201	ERJ8GCVJ122	M 1.2K OHM J 1/8W	R351	ERDS2FJ102K	C 1K OHM J 1/4W
R202	ERJ8GCVJ122	M 1.2K OHM J 1/8W	R352	ERJ6ENF2871	M 2.87K OHM F 1/10W
R203	ERJ6GEYJ392	M 3.9K OHM J 1/10W	R354	ERJ6GEYJ182	M 1.8K OHM J 1/10W
R204	ERJ6GEYJ392	M 3.9K OHM J 1/10W	R355	ERJ6ENF6652	M 66.5K OHM F 1/10W
R205	ERJ6GEYJ392	M 3.9K OHM J 1/10W	R356	ERDS2TJ223	C 22K OHM J 1/4W

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
R357	ERDS2TJ470	C 47 OHM J 1/4W	R547	ERJ6ENF5111	M 5.11K OHM F 1/10W
R358	ERDS2TJ100	C 10 OHM J 1/4W	R548	ERJ6GEYJ102	M 1K OHM J 1/10W
R359	ERDS2TJ100	C 10 OHM J 1/4W	R554	ERX2SJ1R5	M 1.5 OHM J 2W
R360	ERQ14AJ101	F 100 OHM J 1/4W	R555	ERX2SJ1R2	M 1.2 OHM J 2W
R371	ERD25FJ332K	C 3.3K OHM J 1/4W	R557	ERX3FJX6R6C	M 6.8 OHM J 3W
R372	ERDS1FJ224	C 220K OHM J 1/2W	R558	ERDS1FJ221	C 220 OHM J 1/2W
R373	ERDS2TJ395	C 3.9K OHM J 1/4W	R561	ERDS1FJ472	C 4.7K OHM J 1/2W
R374	ERDS2TJ473	C 47K OHM J 1/4W	R562	ERJ6GEYJ472	M 4.7K OHM J 1/8W
R375	ERDS2CKF2671	M 2.67K OHM F 1/4W	R563	ERJ6GEYJ100	M 10 OHM J 1/10W
R377	ERJ6GEYJ102	M 1K OHM J 1/10W	R564	ERDS1FJ472	C 4.7K OHM J 1/2W
R378	ERJ6ENF1001	M 1K OHM F 1/10W	R565	ERJ6GEYJ472	M 4.7K OHM J 1/8W
R379	ERJ6ENF1001	M 1K OHM F 1/10W	R566	ERJ6GEYJ100	M 10 OHM J 1/10W
R401	ERD25CKF1782	M 17.8K OHM F 1/4W	R571	ERJ6GEYJ474	M 470K OHM J 1/10W
R402	ERJ6GEYJ882	M 6.8K OHM J 1/10W	R572	ERJ6GEYJ274	M 270K OHM J 1/10W
R403	ERJ6GEYJ123	M 12K OHM J 1/10W	R573	ERJ6GEYJ104	M 100K OHM J 1/10W
R404	ERD25CKF3162	M 31.6K OHM F 1/4W	R575	ERJ6GEYJ153	M 15K OHM J 1/10W
R405	ERDS2TJ1RQ	C 1 OHM J 1/4W	R577	ERJ6GEYJ822	M 8.2K OHM J 1/10W
R406	ERX1SJ1R0	M 1 OHM J 1W	R579	ERG3FJ182	M 1.8K OHM J 3W
R407	ERG1SJ221	M 220 OHM J 1W	R581	ERDS2TJ101	C 100 OHM J 1/4W
R408	ERJ6GEYJ681	M 680 OHM J 1/10W	R582	ERDS2TJ101	C 100 OHM J 1/4W
R411	ERJ6GEYJ122	M 1.2K OHM J 1/10W	R583	ERJ6GEYJ332	M 3.3K OHM J 1/8W
R412	ERJ6GEYJ103	M 10K OHM J 1/10W	R584	TAR188KOR11Z	F 0.11 OHM J 1/4W
R421	ERJ6GEYJ183	M 18K OHM J 1/10W	R585	ERG3FJ220	M 22 OHM J 3W
R422	ERJ6GEYJ123	M 12K OHM J 1/10W	R587	ERDS1FJ105	C 1W OHM J 1/2W
R440	ERJ6GEYJ153	M 15K OHM J 1/10W	R588	ERDS1FJ274	M 270K OHM J 1/2W
R441	ERJ6GEYJ333	M 33K OHM J 1/10W	R589	ERDS1FJ564	C 560K OHM J 1/2W
R442	ERJ6GEYJ862	M 5.6K OHM J 1/10W	R590	ERDS1FJ184	C 180K OHM J 1/2W
R443	ERJ6GEYJ833	M 33K OHM J 1/10W	R591	ERJ6ENF1002	M 10K OHM F 1/10W
R444	ERJ6GEYJ223	M 22K OHM J 1/10W	R592	ERG3FJ273	M 27K OHM J 3W
R445	ERJ6GEYJ333	M 33K OHM J 1/10W	R593	ERJ6ENF1821	M 1.82K OHM F 1/10W
R446	ERJ6GEYJ332	M 3.3K OHM J 1/10W	R594	ERDS2TJ682	C 6.8K OHM J 1/4W
R447	ERJ6GEYJ333	M 33K OHM J 1/10W	R595	ERDS2CKF3161	M 3.16K OHM F 1/4W
R448	ERJ6GEYJ862	M 5.6K OHM J 1/10W	R596	ERDS2CKF5361	M 5.36K OHM F 1/4W
R449	ERJ6GEYJ333	M 33K OHM J 1/10W	R597	ERDS2TJ121	C 120 OHM J 1/4W
R502	ERJ6GEYJ333	M 33K OHM J 1/10W	R598	ERDS1FJ1R8	C 1.8 OHM J 1/2W
R503	ERJ6GEYJ682	M 6.8K OHM J 1/8W	R651	ERD25CKF8251	M 8.25K OHM F 1/4W
R504	ERJ6GEYJ0R00	M 0 OHM J 1/10W	R652	ERDS2TJ333	C 33K OHM J 1/4W
R505	ERJ6GEYJ183	M 18K OHM J 1/10W	R654	ERQ14AJ100	F 10 OHM J 1/4W
R506	ERJ6GEYJ154	M 150K OHM J 1/10W	R655	ERQ14AJ100	F 10 OHM J 1/4W
R507	ERJ6ENF1242	M 2.4K OHM F 1/10W	R656	ERJ6ENF3482	M 34.8K OHM F 1/10W
R508	ERJ6ENF2322	M 23.2K OHM F 1/10W	R657	ECUX1C1052FX	C 1uF Z 16V
R509	ERJ6ENF7501	M 7.5K OHM F 1/10W	R658	ERJ6ENF1002	M 10K OHM F 1/10W
R510	ERJ6GEYJ152	M 1.5K OHM J 1/10W	R659	ERQ14AJ100	F 10 OHM J 1/4W
R511	ERJ6GEYJ334	M 330K OHM J 1/10W	R669	ERJ6GEYJ682	M 6.8K OHM J 1/10W
R512	ERJ6GEYJ100	M 10 OHM J 1/10W	R670	ERX3FJX1R0D	M 1 OHM J 3W
R514	ERD25FJ392K	C 3.9K OHM J 1/4W	R671	ERJ6GEYJ472	M 4.7K OHM J 1/10W
R515	ERDS2TJ392	C 3.9K OHM J 1/4W	R672	ERJ6GEYJ562	M 5.6K OHM J 1/10W
R517	ERJ6GEYJ821	M 820 OHM J 1/10W	R673	ERJ6GEYJ392	M 3.9K OHM J 1/10W
R521	ERJ6GEYJ473	M 47K OHM J 1/10W	R674	ERDS2TJ102	C 1K OHM J 1/4W
R522	ERJ6GEYJ124	M 120K OHM J 1/10W	R675	ERQ14AJ100	F 10 OHM J 1/4W
R523	ERJ6GEYJ474	M 470K OHM J 1/10W	R676	ERDS2TJ104	C 100K OHM J 1/4W
R524	ERJ6GEYJ101	M 100 OHM J 1/10W	R677	ERX3FJX1R0D	M 1 OHM J 3W
R525	ERG2SJ121	M 120 OHM J 2W	R678	ERG1SJ332	M 3.3K OHM J 1W
R526	ERDS1FJ470	C 47 OHM J 1/2W	R680	ERDS2TJ102	C 1K OHM J 1/4W
R527	ERDS2TJ332	C 3.3K OHM J 1/4W	R681	ERDS2TJ104	C 100K OHM J 1/4W
R528	ERG1SJ561	M 560 OHM J 1W	R682	ERDS2TJ823	C 82K OHM J 1/4W
R530	ERJ6GEYJ562	M 5.6K OHM J 1/10W	R683	ERDS2TJ562	C 5.6K OHM J 1/4W
R539	ERJ6GEYJ102	M 1K OHM J 1/10W	R684	ERJ6GEYJ124	M 120K OHM J 1/10W
R543	ERJ6GEYJ472	M 4.7K OHM J 1/10W	R693	ERJ6GEYJ154	M 150K OHM J 1/10W
R544	ERJ6GEYJ103	M 10K OHM J 1/10W	R694	ERJ6GEYJ333	M 33K OHM J 1/10W
R545	ERJ6GEYJ822	M 8.2K OHM J 1/10W	R695	ERJ6GEYK825	M 8.2M OHM K 1/10W
R546	ERJ6GEYJ153	M 15K OHM J 1/10W	R696	ERDS1FJ274	C 270K OHM J 1/2W

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
R697	ERJ12NF3903	M 390K OHM F 1/2W	R858	ERJ6ENF2002	M 20K OHM F 1/10W
R698	ERJ6ENF2202	M 22K OHM F 1/8W	R859	ERJ6ENF2321	M 2.32K OHM F 1/10W
R699	EROS2CKF3403	M 340K OHM F 1/4W	R861	ERQ12AJR12HK	F 0.12 OHM J 1/2W
R701	ERJ6GEYJ333	M 33K OHM J 1/10W	R863	ERQ12AJR33HK	F 0.33 OHM J 1/2W
R702	ERJ6GEYJ333	M 33K OHM J 1/10W	R864	ERQ12AJR12HK	F 0.12 OHM J 1/2W
R707	ERJ6GEYJ103	M 10K OHM J 1/10W	R865	ERQ12AJR12HK	F 0.12 OHM J 1/2W
R715	ERJ6GEYJ101	M 100 OHM J 1/10W	R867	ERDS2TJ102	C 1K OHM J 1/4W
R716	ERDS2TJ101	C 100 OHM J 1/4W	R868	ERD25FJ271K	C 270 OHM J 1/4W
R717	ERJ6GEYJ153	M 15K OHM J 1/10W	R869	ERD25FJ271K	C 270 OHM J 1/4W
R718	ERJ6GEYJ103	M 10K OHM J 1/10W	R870	ERQ12AJR33HK	F 0.33 OHM J 1/2W
R719	ERJ6GEYJ103	M 10K OHM J 1/10W	R871	ERDS2TJ102	C 1K OHM J 1/4W
R720	ERJ6GEYJ883	M 88K OHM J 1/10W	R872	ERD25FJ271K	C 270 OHM J 1/4W
R721	ERJ6GEYJ883	M 88K OHM J 1/10W	R873	ERJ6ENF1102	M 11K OHM F 1/10W
R722	ERJ6GEYJ333	M 33K OHM J 1/10W	R874	ERJ6ENF1102	M 11K OHM F 1/10W
R723	ERJ6GEYJ104	M 100K OHM J 1/10W	R875	ERDS1FJ151	C 150 OHM J 1/2W
R724	ERJ6GEYJ104	M 100K OHM J 1/10W	R876	ERJ6ENF3321	M 3.32K OHM F 1/10W
R725	ERJ8GCVJ122	M 1.2K OHM J 1/8W	R877	ERDS2TJ102	C 1K OHM J 1/4W
R726	ERJ6GEYJ102	M 1K OHM J 1/10W	R878	ERJ6ENF8191	M 8.19K OHM F 1/10W
R727	TAR103JQ102H	M 1K OHM J 1/10W	R879	ERJ6ENF1621	M 1.62K OHM F 1/10W
R728	ERJ6GEYJ103	M 10K OHM J 1/10W	R880	ERJ6ENF1331	M 1.33K OHM F 1/10W
R729	ERJ6GEYJ104	M 100K OHM J 1/10W	R881	ERJ6ENF1181	M 1.18K OHM F 1/10W
R751	ERJ6GEYJ333	M 33K OHM J 1/10W	R882	ERG15J103	M 10K OHM J 1W
R752	ERJ6GEYJ223	M 22K OHM J 1/10W	R883	ERD25CKF2742	M 27.4K OHM F 1/4W
R770	ERJ6GEYJ272	M 2.7K OHM J 1/10W	R884	ERJ6ENF1781	M 1.78K OHM F 1/10W
R771	ERJ6GEYJ332	M 3.3K OHM J 1/10W	R885	ERJ6GEYJ103	M 10K OHM J 1/10W
R772	ERJ6GEYJ274	M 270K OHM J 1/10W	R886	ERDS1FJ122	C 1.2K OHM J 1/2W
R801	ERQ12AGK394	F 390K OHM K 1/2W	R887	ERDS1FJ123	C 12K OHM J 1/2W
R802	ERT06ZFL20P	HERMISTOR	R888	ERJ6GEYJ392	M 3.9K OHM J 1/10W
R821	ERDS1FJ224	C 220K OHM J 1/2W	R889	ERJ6GEYJ223	M 22K OHM J 1/10W
R822	ERDS1FJ224	C 220K OHM J 1/2W	R893	ERDS2TJ332	C 3.3K OHM J 1/4W
R823	EROS2CKF8202	M 82K OHM F 1/4W	R894	ERDS2TJ381	C 380 OHM J 1/4W
R824	ERDS2TJ470	C 47 OHM J 1/4W	R895	ERDS2TJ104	C 100K OHM J 1/4W
R825	ERW2PKR22	M 0.22 OHM K 2W	R896	ERJ6GEYJ103	M 10K OHM J 1/10W
R826	ERQ3FL104	M 100K OHM J 3W	R897	ERD25FJ332K	C 3.3K OHM J 1/4W
R827	ERQ12AJR4R7	F 4.7 OHM J 1/2W	R898	ERJ6ENF3321	M 3.32K OHM F 1/10W
R828	ERDS1FJ274	C 270K OHM J 1/2W	R899	ERG15J102	M 1K OHM J 1W
R829	ERDS2TJ223	C 22K OHM J 1/4W	R901	TAP10209RO	POSISTOR
R830	ERG25J333	M 33K OHM J 2W	R902	ERDS1FJ103	C 10K OHM J 1/2W
R831	ERDS1FJ334	C 330K OHM J 1/2W	R903	ERJ6GEYJ102	M 1K OHM J 1/10W
R832	ERDS2TJ224	C 220K OHM J 1/4W	R946	ERQ14AJ100	F 10 OHM J 1/4W
R833	ERDS2TJ224	C 220K OHM J 1/4W	R951	ERJ6ENF6042	M 60.4K OHM F 1/10W
R834	ERG25J333	M 33K OHM J 2W	R952	ERJ6ENF6982	M 69.8K OHM F 1/10W
R835	ERW2PKR22	M 0.22 OHM K 2W	R953	ERJ6ENF3742	M 37.4K OHM F 1/10W
R836	ERD25FJ223K	C 22K OHM J 1/4W	R954	ERJ6GEYJ881	M 880 OHM J 1/10W
R837	ERQ14AJ330	F 33 OHM J 1/4W	R955	ERJ6GEYJ102	M 1K OHM J 1/10W
R838	ERDS2TJ222	C 2.2K OHM J 1/4W	R956	ERJ6ENF1741	M 1.74K OHM F 1/10W
R840	ERDS2TJ222	C 2.2K OHM J 1/4W	R957	ERJ6ENF3321	M 3.32K OHM F 1/10W
R841	ERJ6GEYJ472	M 4.7K OHM J 1/10W	R958	ERJ6GEYJ272	M 2.7K OHM J 1/10W
R842	ERJ6GEYJ472	M 4.7K OHM J 1/10W	R959	ERJ6GEYJ272	M 2.7K OHM J 1/10W
R843	ERJ6GEYJ472	M 4.7K OHM J 1/10W	R960	ERDS2TJ2R7	C 2.7 OHM J 1/4W
R844	ERJ6GEYJ122	M 1.2K OHM J 1/10W	R1001	EROS2CKF75RO	M 75 OHM F 1/4W
R845	ERJ6GEYJ472	M 4.7K OHM J 1/10W	R1002	ERDS2TJ330	C 33 OHM J 1/4W
R846	ERD25FJ561K	C 560 OHM J 1/4W	R1003	ERJ8GCVJ391	M 390 OHM J 1/8W
R847	ERJ6GEYJ472	M 4.7K OHM J 1/10W	R1005	ERJ6GEYJ583	M 58K OHM J 1/10W
R848	ERG15J223	M 22K OHM J 1W	R1051	ERD25FJ681K	C 680 OHM J 1/4W
R849	ERJ6GEYJ103	M 10K OHM J 1/10W	R1052	ERDS2TJ102	C 1K OHM J 1/4W
R850	ERDS2TJ103	C 10K OHM J 1/4W	R1053	ERDS1FJ330	C 33 OHM J 1/2W
R851	ERJ6GEYOR00	M 0 OHM J 1/10W	R1054	ERDS2TJ224	C 220K OHM J 1/4W
R852	ERJ6GEYJ102	M 1K OHM J 1/10W	R1055	ERDS2TJ224	C 220K OHM J 1/4W
R853	ERD25FJ122K	C 1.2K OHM J 1/4W	R1056	ERDS2TJ223	C 22K OHM J 1/4W
R854	ERDS2TJ103	C 10K OHM J 1/4W	R1057	ERJ6GEYJ103	M 10K OHM J 1/10W
R857	ERQ14AJR68	F 0.68 OHM J 1/4W	R1058	ERDS2TJ103	C 10K OHM J 1/4W

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
R1059	ERJ6GEYJ470	M 47 OHM J 1/10W	R1367	EROS2CKF1653	M 165K OHM F 1/4W
R1060	ERG1SJ103	M 10K OHM J 1W	R1368	ERDS2TJ103	C 10K OHM J 1/4W
R1061	TAR114J0151H	F 150 OHM F 1/10W	R1369	ERDS2TJ182	C 1.8K OHM J 1/4W
R1101	EROS2CKF75R0	M 75 OHM F 1/4W	R1370	ERDS2TJ185	C 1.8M OHM J 1/4W
R1102	ERDS2TJ330	C 33 OHM J 1/4W	R1371	ERDS1FJ103	C 10K OHM J 1/2W
R1103	ERJ6GCVJ391	M 390 OHM J 1/8W	R1380	ERJ6GEYJ152	M 1.5K OHM J 1/10W
R1105	ERJ6GEYJ563	M 56K OHM J 1/10W	R1381	ERJ6GEYJ472	M 4.7K OHM J 1/10W
R1151	ERD25FJ681K	C 680 OHM J 1/4W	R1382	ERJ6ENF2001	M 2K OHM F 1/10W
R1152	ERDS2TJ102	C 1K OHM J 1/4W	R1383	ERDS2TJ683	C 68K OHM J 1/4W
R1153	ERDS1FJ330	C 33 OHM J 1/2W	R1384	ERDS1FJ125	C 1.2M OHM J 1/2W
R1154	ERDS2TJ224	C 220K OHM J 1/4W	R1385	ERJ6GCVJ222	M 2.2K OHM J 1/8W
R1155	ERDS2TJ224	C 220K OHM J 1/4W	R1387	ERJ6GEYJ100	M 10 OHM J 1/10W
R1156	ERDS2TJ223	C 22K OHM J 1/4W	R1401	ERJ6GEYJ101	M 100 OHM J 1/10W
R1157	ERJ6GEYJ103	M 10K OHM J 1/10W	R1402	ERD25FJ203K	C 20K OHM J 1/4W
R1158	ERDS2TJ103	C 10K OHM J 1/4W	R1403	ERJ6ENF6041	M 6.04K OHM F 1/10W
R1159	ERJ6GEYJ470	M 47 OHM J 1/10W	R1404	ERJ6ENF2742	M 27.4K OHM F 1/10W
R1160	ERG1SJ103	M 10K OHM J 1W	R1406	ERJ6GEYJ331	M 330 OHM J 1/10W
R1161	TAR114J0121H	F 120 OHM F 1/10W	R1407	ERJ6GEYJ331	M 330 OHM J 1/10W
R1201	EROS2CKF75R0	M 75 OHM F 1/4W	R1408	ERJ6GEYJ103	M 10K OHM J 1/10W
R1202	ERDS2TJ330	C 33 OHM J 1/4W	R1409	ERJ6GEYJ103	M 10K OHM J 1/10W
R1203	ERJ6GCVJ391	M 390 OHM J 1/8W	OTHERS		
R1205	ERJ6GEYJ563	M 56K OHM J 1/10W	THTF001	SCREW	
R1251	ERD25FJ681K	C 680 OHM J 1/4W	TMKK025	MICA SHEET	
R1252	ERDS2TJ102	C 1K OHM J 1/4W	TUC87574	AC INLET BRACKET	
R1253	ERDS1FJ330	C 33 OHM J 1/2W	XTV3+12J	SCREW	
R1254	ERDS2TJ224	C 220K OHM J 1/4W	XTV3+8J	SCREW	
R1255	ERDS2TJ224	C 220K OHM J 1/4W	XWG3F10	WASHER	
R1256	ERDS2TJ223	C 22K OHM J 1/4W	F888	TSFK16A352	FUSE(3.5A)
R1257	ERJ6GEYJ103	M 10K OHM J 1/10W	F889	TSF89102	FUSE(1.0A)
R1258	ERDS2TJ103	C 10K OHM J 1/4W	FG1	TJEA013	EARTH TERMINAL
R1259	ERJ6GEYJ470	M 47 OHM J 1/10W	FG3	TJC85341	EARTH LUG
R1260	ERG1SJ103	M 10K OHM J 1W	FG4	TJC85341	EARTH LUG
R1261	TAR114J0381H	F 330 OHM F 1/10W	FG5	TJC85341	EARTH LUG
R1301	ERJ6ENF2152	M 21.5K OHM F 1/10W	FG6	TJC85341	EARTH LUG
R1302	ERJ6ENF5111	M 5.11K OHM F 1/10W	FG7	TJC85341	EARTH LUG
R1304	ERD25FJ101K	C 100 OHM J 1/4W	FG8	TJC85341	EARTH LUG
R1305	ERD25FJ101K	C 100 OHM J 1/4W	FS801	TJC85502T	FUSE HOLDER
R1307	ERJ6GEYJ103	M 10K OHM J 1/10W	FS802	TJC85502T	FUSE HOLDER
R1309	ERJ6GEYJ331	M 330 OHM J 1/10W	N100	EMCS0451ML	4P CONNECTOR(L-TYPE)
R1310	ERJ6GEYJ123	M 12K OHM J 1/10W	N150	TJSF10220	20P CONNECTOR
R1311	ERDS1FJ123	C 12K OHM J 1/2W	N151	TJSF10220	20P CONNECTOR
R1331	ERJ6GEYJ103	M 10K OHM J 1/10W	N152	TJSF10220	20P CONNECTOR
R1332	ERJ6GEYOR00	M 0 OHM J 1/10W	N201	TJS118620	8P CONNECTOR
R1333	ERJ6ENF1002	M 10K OHM F 1/10W	N801	TJS8A9361	AC SOCKET
R1334	ERJ6ENF1002	M 10K OHM F 1/10W	N940	EMCS0264M	2P CONNECTOR
R1335	ERDS2TJ562	C 5.6K OHM J 1/4W	N951	TJS118590	2P CONNECTOR
R1336	ERJ6GEYJ223	M 22K OHM J 1/10W	N1001	TJS118640	7P CONNECTOR
R1338	ERJ6GEYJ473	M 47K OHM J 1/10W	N1002	TXAJTV8P159	8P CONNECTOR ASSY
R1339	ERJ6GEYJ103	M 10K OHM J 1/10W	N1002ATJS118650	8P CONNECTOR	
R1340	ERJ6GEYJ331	M 330 OHM J 1/10W	N1003	TXAJTV11PG15	11P CONNECTOR ASSY
R1341	ERJ6GEYJ822	M 8.2K OHM J 1/10W	N1003ATJS118680	11P CONNECTOR	
R1342	ERJ6GEYJ472	M 4.7K OHM J 1/10W	N1004	TJS8A5130	CRT SOCKET
R1343	ERJ6GEYJ182	M 1.8K OHM J 1/10W	N1005	TJC85342T	LUG TERMINAL
R1345	ERJ6GEYJ102	M 1K OHM J 1/10W	N1006	TJCD003	TERMINAL
R1346	ERJ6GEYJ153	M 15K OHM J 1/10W	N1007	TJC85342T	LUG TERMINAL
R1347	ERJ6GCVJ101	M 100 OHM J 1/8W	N501-1TEL302-9	TERMINAL	
R1361	ERDS1FJ151	C 150 OHM J 1/2W	N501-2TEL302-9	TERMINAL	
R1362	ERJ6GEYJ154	M 150K OHM J 1/10W	N501-3TEL302-9	TERMINAL	
R1363	ERJ6GEYJ154	M 150K OHM J 1/10W	N501-4TEL302-9	TERMINAL	
R1364	EROS2CKF1502	M 15K OHM F 1/4W	N501-1TEL302-9	TERMINAL	
R1365	ERG1SJ182	M 1.8K OHM J 1W	N501-2TEL302-9	TERMINAL	
R1366	ERJ6GEYJ222	M 2.2K OHM J 1/10W			

SAFETY PRECAUTIONS

1 CAUTION:

No modification of any circuit should be attempted. Service work should only be performed after you are thoroughly familiar with all of the following safety checks and servicing guide lines.

2 SAFETY CHECK

Care should be taken while servicing this CRT display because of the high voltage used in the deflection circuits. These voltages are exposed in such areas as the associated flyback and yoke circuits.

3 FIRE & SHOCK HAZARD

- 3-1 Insert an isolation transformer between the CRT display and AC power line before servicing the chassis.
- 3-2 In servicing pay attention to original lead dress especially in the high voltage circuit. If a short circuit is found, replace all parts which have been overheated as a result of the short circuit.
- 3-3 All the protective devices must be reinstalled per original design.
- 3-4 Soldering must be inspected for possible cold solder joints, frayed leads, damaged insulation, solder splashes or sharp solder points. Be certain to remove all foreign material.

4 LEAKAGE CURRENT COLD CHECK

- 4-1 Unplug the AC cord and connect a jumper between the two prongs on the plug.
- 4-2 Turn the CRT display power switch "on".
- 4-3 Measure the resistance value with an ohmmeter between the jumpered AC plug and each exposed metallic part on the CRT display such as the metal frame, screwheads, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be 1.5 megohm minimum.

5 LEAKAGE CURRENT HOT CHECK

- 5-1 Plug the AC cord directly into the AC outlet. Do not use an isolation transformer during this check.
- 5-2 Connect a 1500 ohm, 10 watt resistor, paralleled by a 0.15µF capacitor between each exposed metallic part and a good earth ground (as shown in Fig.1)
- 5-3 Use an AC voltmeter with 1000 ohm/vol or more sensitivity and measure the AC voltage across the combination 1500 ohm resistor and 0.15µF capacitor.
- 5-4 Move the resistor connection to each exposed metallic part and measure the voltage.
- 5-5 Reverse the polarity of the AC plug in the AC outlet and repeat the above measurement.
- 5-6 Voltage measured must not exceed 7.5 volt RMS, from any exposed metallic part to ground. A leakage current tester may be used in the above hot check, in which case any current measured must not exceed 5.0 milliamp. In the case of a measurement exceeding the 5.0 milliamp value, a rework is required to eliminate the chance of a shock hazard.

Note: High voltage is present when this CRT display is

operating. Always discharge the anode of the picture tube to the display chassis to prevent shock hazard.

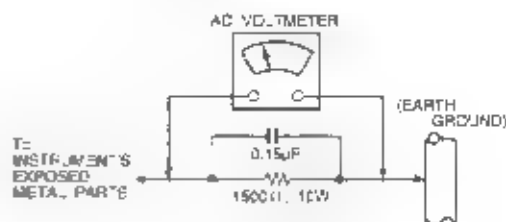


Fig.1

6 IMPLOSION PROTECTION

Picture tubes are equipped with an integral implosion protection system, but care should be taken to avoid damage and scratching during installation. Use only Panasonic replacement picture tubes.

7 X-RADIATION

WARNING : The only potential source of X-Radiation is the picture tube. However when the high voltage circuitry is operating properly there is no possibility of X-Radiation problem. The basic precaution which must be exercised is to keep the high voltage at the following factory-recommended level.

Note: It is important to use an accurate periodically calibrated high voltage meter.

- 7-1 The procedure for adjustment high voltage is as shown on page 15.
- 7-2 If can not be adjust 25.0 kV immediate service is required to prevent the possibility of premature component failure.
- 7-3 To prevent X-Radiation possibility it is essential to use the specified picture tube.

IMPORTANT SAFETY NOTICE

There are special components used in this CRT displays which are important for safety. These parts are identified by the international symbol on the schematic diagram and on the replacement parts list. It is essential that these critical parts should be replaced with manufacture's specified parts to prevent X-RADIATION, shock, fire or other hazards. Do not modify the original design or this will void the original parts and labor guarantee.

GENERAL INFORMATION

1. OUTLINE

V773 is 17 inch multi-scan color CRT display with the following nice features

OSD (on screen display) Control is newly introduced, which allows easy User adjustment

2. FEATURES

2-1 Power Saving

Built in Power Saving function based on VESA-DPMS standard.

Power energy shall be saved by controlling the circuit in accordance with power save signal from computer.

2-2 OSD (on screen display) function

OSD (5 languages) is new and excellent man-machine interface.

Anyone is able to set up the picture as he like through OSD menu

2-3 Self Test function

Self testing picture comes out by pushing any key in the case of no-connection with computer or power saving operation.

This function shows if monitor is alive or not and can be used for self aging test.

2-4 Ergonomic design

- Low emission design to meet MPR II & TCO'92
- ESF (Electro static field) free coating on CRT

2-5 Multi scan with digital technology

- 8 bit micro computer controls the circuit operation to meet with wide range signal of f_{Hmax} = 30~69 kHz and f_{Vmax} = 50~160 Hz. So VGA640x350, VGA640x400, VGA640x480, SVGA800x600, 1024x768 and 1280x1024 mode are applicable.

2-6 1 Factory presets, (+ 7 Reservation), 13 user memories.

- 1 standard mode is preset at the factory.
- 7 modes are reserved at the factory.
- 13 user memories are available to set the users own timing and display information.

2-7 Flat Face and fine dot pitch

- Flat face CRT with a fine dot pitch of 0.27 mm gives a comfortable sight of the screen.

2-8 Superior display performance

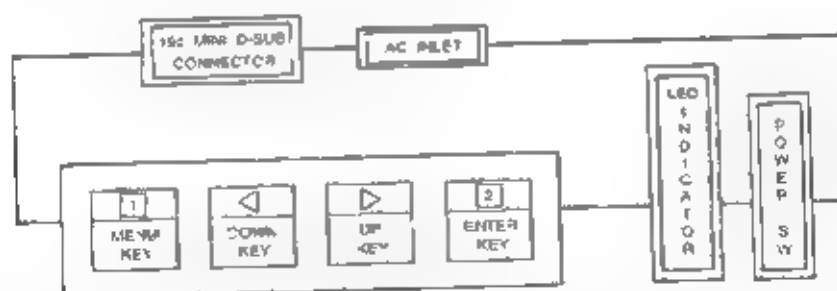
- Good focus by sophisticated gun and dynamic focus circuit
- High contrast
- Minimized distortion by correction circuit
- Good convergence
- Users enjoy full scan image for graphick

2-9 Special function

- VESA DDCC/2B (Display Data Channel) compatible
- Rotation control circuit

SPECIFICATION

1. DIAGRAM



- 1.1 POWER SW, LED, [1]-key (MENU), [<]-key (DOWN), [>]-key (UP), and [2]-key (ENTER) are located on the front panel.

- 1.2 Signal cable and AC inlet are located on the back side of the cabinet.

- 1.3 OSD menu includes the following function.

CONTRAST	BRIGHTNESS	DEGAUSE
RECALL	H POSITION	H SIZE
V POSITION	V SIZE	V PINCUSHION
TRAPEZOID	PARALLELOGRAM	ROTATION

COLOR SELECT

VIDEO INPUT LEVEL

- ※) CONTRAST can be directly controlled with [<]&[>]-key

- ※) With sync signal, OSD menu appears by pushing [1]-key.

Without sync signal, self test menu appears by pushing [1]-key.

D'SPLAY FREQUENCY

LANGUAGES

2. MECHANICAL SPECIFICATIONS

..... refer to the attached drawing

- 2.1 Dimension Height : 416 mm (16.4") (typ.)
 Width : 410 mm (16.1") (typ.)
 Depth : 441 mm (17.4") (typ.)

- 2.2 Net Weight : 17.5 kg (38.6 lbs) (typ.)

- 2.3 Maximum Viewable Phosphor Display Area
 406.4 mm (16.0") (typ.)

3. CONNECTORS

- 3.1 Signal connector:

15P Mini D-Sub cable : un-detachable

- 3.2 AC inlet: CEE 22 typed connector

<15P Mini D-Sub Pin assignment>



- | | | |
|--------------------|----------------|------------------|
| 1 ... RED | 6 ... GROUND | 11 ... GROUND |
| 2 ... GREEN | 7 ... GROUND | 12 ... SDA (DDC) |
| 3 ... BLUE | 8 ... GROUND | 13 ... H SYNC |
| 4 ... GROUND | 9 ... - (OPEN) | 14 ... V. SYNC |
| 5 ... GROUND (DDC) | 10 ... GROUND | 15 ... SCL (DDC) |

4. CRT SPECIFICATIONS

Part No.	M41LLK27X402
Type	17", 90°, 29s, in-line gun (15.5" viewable)
Dot Pitch	0.26 mm
Phosphor	R, G, B Short Persistence (Hi-Eu RED)
CIE Color point:	Red : x:0.625(±0.015); y:0.340(±0.015); Green : x:0.250(±0.015); y:0.695(±0.015); Blue : x:0.150(±0.015); y:0.060(±0.015);
Bulb	SEMI TINT
Face	AREOS
Total Transmission	42.5 %

5. ELECTRICAL SPECIFICATIONS

- 5.1 Standard conditions ... Except special items

Display image	Green, full "H" characters with a border line. (7 x 9 dots) Video signal : 100% duty Display area : 300 mm x 225 mm
Video signal level	0.7 V pp
Contrast, Brightness	Contrast : Max. Brightness : default point
Ambient Temperature	20±5°C (68 ± 9°F)
Input Voltage	AC 120 V, 60 Hz or AC 220 V, 50 Hz
Terrestrial magnetism	Vertical field : northern hemisphere field 40µT (southern hemisphere field -40µT) Horizontal field : no field
Viewing direction	Parallel to the CRT axis
Measurements	After an initial warming up time of more than 30 minutes.
Ambient light	200 ± 50 lx
Display mode	1024 x 768 (60.02 kHz, 75.03 Hz)

5.2 POWER

- 5.2.1 Power supply ... Commercial power source

Input voltage	AC 90 - 132 V, AC 198 - 264 V
Power frequency	50 Hz ± 3 Hz, 60 Hz ± 3 Hz
Input current	2.0 A Max. (100 V)
inrush current (at 20°C)	40 A op
Power consumption	110 W (Typ.)

- 5.2.2 Power Management for Power Saving ...

Power saving system is designed based upon VESA DPMS standard (Version : 1.0)

- 1) Power consumption and recovery time.

APM State	H. Sync	V. Sync	V. DEO	MONITOR POWER CONSUMPTION	RECOVERY TIME TO ON STATE	VIDEO ADP
ON	NORM. MAX.	NORM. MAX.	ACTIVE	100%	—	Green
SUSPEND	> 10 Hz Sync or < 6 Hz	> 10 Hz Sync or < 6 Hz	BLANK	< 30 W	< 4s	Yellow
OFF	> 10 Hz Sync or < 6 Hz	> 10 Hz Sync or < 6 Hz	BLANK	< 30 W	< 4s	Yellow

** The transition time from ON state to each APM state is 5 seconds minimum.

*1 : APM : Advanced Power Management.

*2 Means. Condition of power consumption for ON state.

DISPLAY IMAGE : WHITE full "H" characters with a border line (7 x 9 dots).

*3 : NORMAL See "5.3 ACCEPTABLE TIMING".

*4 Power Consumption is measured at AC 100-240V

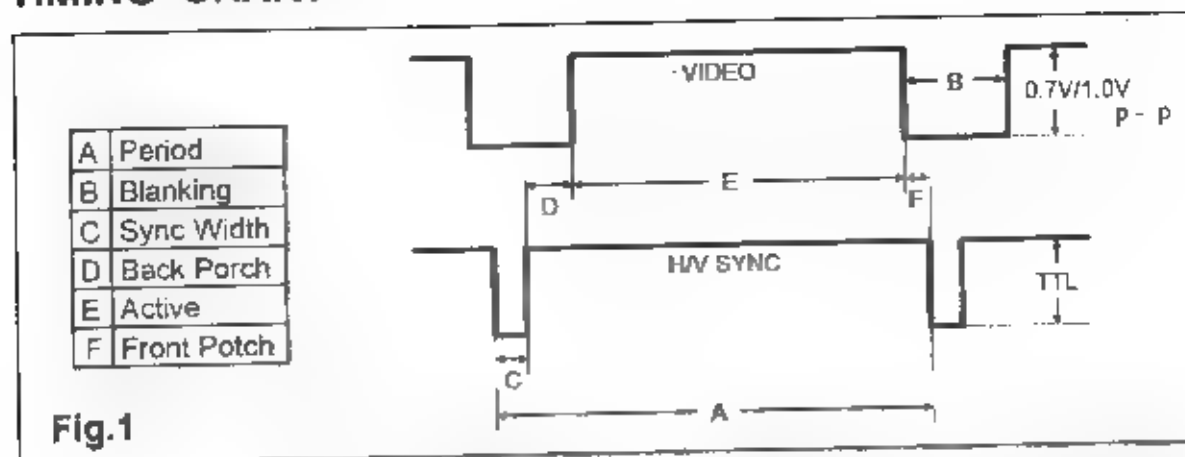
*5 : Power saving operation is done at least less than specified value in the list

*6 : Micro controller will supply SUSPEND signal at this mode

5.3 Standard timing (Standard mode)

- Following 1 mode is preset in the memory as standard timing at the factory and 7 modes are reserved
- Fig-1 shows a definition of timing and signal level.
- Electrical performance is specified This SPECIFICATION is specified at STD (1024 x 768) mode unless otherwise mentioned

TIMING CHART



		PRESET	RESERVATION	RESERVATION
		MODE - 1	MODE - 2	MODE - 3
		1024 × 768 (75)	640 × 480 (60)	640 × 480 (75)
DOT CLOCK		78.7500 MHz	25.1745 MHz	31.5000 MHz
fH		60.0229 kHz	31.4681 kHz	37.5000 kHz
H	A - PERIOD	16.880 μs (1,312 dots)	31.776 μs (800 dots)	28.667 μs (540 dots)
	B - BLANKING TIME	3.657 μs (288 dots)	6.356 μs (160 dots)	6.349 μs (200 dots)
	C - SYNC WIDTH	1.219 μs (96 dots)	3.813 μs (96 dots)	2.032 μs (64 dots)
	D - BACK PORCH	2.235 μs (176 dots)	1.946 μs (49 dots)	3.810 μs (120 dots)
	E - ACTIVE TIME	13.003 μs (1,024 dots)	25.423 μs (640 dots)	20.317 μs (640 dots)
	F - FRONT PORCH	0.203 μs (16 dots)	0.596 μs (15 dots)	0.508 μs (16 dots)
fV		75.0286 Hz	59.9393 Hz	75.0000 Hz
V	A - PERIOD	13.328 ms (800 lines)	16.684 ms (525 lines)	13.333 ms (500 lines)
	B - BLANKING TIME	0.533 ms (32 lines)	1.430 ms (45 lines)	0.833 ms (20 lines)
	C - SYNC WIDTH	0.050 ms (3 lines)	0.064 ms (2 lines)	0.080 ms (3 lines)
	D - BACK PORCH	0.466 ms (28 lines)	1.170 ms (37 lines)	0.427 ms (18 lines)
	E - ACTIVE TIME	12.795 ms (768 lines)	15.254 ms (480 lines)	12.800 ms (480 lines)
	F - FRONT PORCH	0.017 ms (1 lines)	0.191 ms (6 lines)	0.027 ms (1 lines)
SYNC POLARITY(H/V)		Positive / Positive	Negative / Negative	Negative / Negative

		RESERVATION	RESERVATION	RESERVATION
		MODE - 4	MODE - 5	MODE - 6
		800 × 600 (75)	MAC 832 × 624	1024 × 768 (70)
DOT CLOCK		49.5000 MHz	57.2832 MHz	75.0000 MHz
fH		46.8750 kHz	49.7250 kHz	56.4759 kHz
H	A - PERIOD	21.333 μs (1,056 dots)	20.111 μs (1,152 dots)	17.707 μs (1,328 dots)
	B - BLANKING TIME	5.172 μs (256 dots)	5.586 μs (320 dots)	4.053 μs (304 dots)
	C - SYNC WIDTH	1.616 μs (80 dots)	1.117 μs (64 dots)	1.813 μs (136 dots)
	D - BACK PORCH	3.232 μs (160 dots)	3.910 μs (224 dots)	1.920 μs (144 dots)
	E - ACTIVE TIME	16.162 μs (800 dots)	14.524 μs (832 dots)	13.653 μs (1,024 dots)
	F - FRONT PORCH	0.323 μs (16 dots)	0.559 μs (32 dots)	0.320 μs (24 dots)
fV		75.0000 Hz	74.5502 Hz	70.0694 Hz
V	A - PERIOD	13.333 ms (625 lines)	13.414 ms (667 lines)	14.272 ms (806 lines)
	B - BLANKING TIME	0.533 ms (25 lines)	0.865 ms (43 lines)	0.873 ms (38 lines)
	C - SYNC WIDTH	0.064 ms (3 lines)	0.080 ms (3 lines)	0.106 ms (5 lines)
	D - BACK PORCH	0.448 ms (21 lines)	0.784 ms (39 lines)	0.513 ms (29 lines)
	E - ACTIVE TIME	12.800 ms (600 lines)	12.549 ms (624 lines)	13.599 ms (768 lines)
	F - FRONT PORCH	0.021 ms (1 lines)	0.020 ms (1 lines)	0.053 ms (3 lines)
SYNC POLARITY(H/V)		Positive / Positive	Negative / Negative	Negative / Negative

		RESERVATION	RESERVATION
		MODE - 7	MODE - 8
		MAC 1024 × 768	1280 × 1024 (60)
DOT CLOCK		80.0000 MHz	108.0000 MHz
H	f _H	60.2410 kHz	63.9810 kHz
	A - PERIOD	16.620 μs (1,328 dots)	15.630 μs (1,658 dots)
	B - BLANKING TIME	3.800 μs (304 dots)	3.776 μs (408 dots)
	C - SYNC WIDTH	1.200 μs (96 dots)	1.037 μs (112 dots)
	D - BACK PORCH	2.200 μs (176 dots)	2.296 μs (248 dots)
	E - ACTIVE TIME	12.800 μs (1,024 dots)	11.852 μs (1,280 dots)
	F - FRONT PORCH	0.400 μs (32 dots)	0.444 μs (48 dots)
V	f _V	74.9268 Hz	60.0197 Hz
	A - PERIOD	13.346 ms (804 lines)	16.661 ms (1,068 lines)
	B - BLANKING TIME	0.598 ms (36 lines)	0.656 ms (42 lines)
	C - SYNC WIDTH	0.050 ms (3 lines)	0.047 ms (3 lines)
	D - BACK PORCH	0.498 ms (30 lines)	0.584 ms (38 lines)
	E - ACTIVE TIME	12.749 ms (768 lines)	16.005 ms (1,024 lines)
	F - FRONT PORCH	0.050 ms (3 lines)	0.016 ms (1 lines)
SYNC POLARITY(H/V)		Negative / Negative	Positive / Positive

		ADJUSTMENT	ADJUSTMENT	ADJUSTMENT
		HV7 - 1	HV7 - 2	HV7 - 3
DOT CLOCK		22.6000 MHz	40.2479 MHz	64.0400 MHz
H	f _H	29.5039 KHz	38.9899 KHz	53.9898 KHz
	A - PERIOD	33.894 μs (768 dots)	25.641 μs (1,032 dots)	18.520 μs (1,186 dots)
	B - BLANKING TIME	8.498 μs (192 dots)	3.926 μs (158 dots)	4.497 μs (288 dots)
	C - SYNC WIDTH	4.115 μs (93 dots)	1.491 μs (60 dots)	1.718 μs (110 dots)
	D - BACK PORCH	2.788 μs (63 dots)	2.336 μs (94 dots)	2.186 μs (140 dots)
	E - ACTIVE TIME	25.396 μs (574 dots)	21.715 μs (874 dots)	14.022 μs (898 dots)
	F - FRONT PORCH	1.593 μs (36 dots)	0.099 μs (4 dots)	0.593 μs (38 dots)
V	f _V	46.0520 Hz	77.0749 Hz	106.0618 Hz
	A - PERIOD	20.811 ms (614 lines)	12.974 ms (508 lines)	9.519 ms (514 lines)
	B - BLANKING TIME	0.915 ms (27 lines)	0.744 ms (29 lines)	0.482 ms (26 lines)
	C - SYNC WIDTH	0.102 ms (3 lines)	0.103 ms (4 lines)	0.037 ms (2 lines)
	D - BACK PORCH	0.712 ms (21 lines)	0.513 ms (20 lines)	0.352 ms (19 lines)
	E - ACTIVE TIME	19.898 ms (587 lines)	12.231 ms (477 lines)	9.038 ms (488 lines)
	F - FRONT PORCH	0.102 ms (3 lines)	0.128 ms (5 lines)	0.093 ms (5 lines)
SYNC POLARITY(H/V)		Negative / Negative	Negative / Negative	Negative / Negative

		ADJUSTMENT
		HV7 - 4
DOT CLOCK		83.4300 MHz
H	f _H	69.9850 kHz
	A - PERIOD	14.289 μs (1,335 dots)
	B - BLANKING TIME	3.329 μs (311 dots)
	C - SYNC WIDTH	1.092 μs (102 dots)
	D - BACK PORCH	1.820 μs (170 dots)
	E - ACTIVE TIME	10.960 μs (1,024 dots)
	F - FRONT PORCH	0.417 μs (39 dots)
V	f _V	165.0590 Hz
	A - PERIOD	6.058 ms (424 lines)
	B - BLANKING TIME	0.457 ms (32 lines)
	C - SYNC WIDTH	0.043 ms (3 lines)
	D - BACK PORCH	0.343 ms (24 lines)
	E - ACTIVE TIME	5.601 ms (392 lines)
	F - FRONT PORCH	0.071 ms (5 lines)
SYNC POLARITY(H/V)		Negative / Negative

5.4 Acceptable timing

- If your timing is within following specification, this CRT display can automatically function with a certain size and position.

Horizontal: Sync frequency: 30.0 ~ 69.0 kHz
 Blanking Time: $\geq 3.4 \mu\text{s}$
 Back Porch: $\geq 1.25 \mu\text{s}$
 Front Porch: \leq Back Porch
 Sync Width: $\geq 1.2 \mu\text{s}$

Vertical: Sync frequency: 50.0 ~ 160.0 Hz
 Blanking Time: $\geq 0.5 \text{ ms}$
 Back Porch: $\geq 0.4 \text{ ms}$
 Sync Width: $\geq 0.045 \text{ ms}$

- Several items like size, position and distortion can be adjusted through OSD menu, and if you want to keep it, please push the key [I] for memory, or keep the key untouched for about 20 seconds, it is automatically memorized.

NOTE: In case of RECALL, the key [I] untouched for about 30 seconds, RECALL function will be cancelled.

Please note, however, that there is the case you can not get the size and/or position you want. (for example, in case Display video Time is too short, you can't get bigger size of the image.)

- The CRT adopted in this CRT display is designed to minimize the moire phenomenon at suitable size for typical display modes. However, there might be a display format among many formats, in which the moire phenomenon appears on this display.

5.5 Signal level and input impedance

5.5.1 Video Signal level

- This CRT display is adjusted at the factory using 0.7Vpp Video Signal. Black level is 0 V.
- This CRT display is compatible with 1.0Vpp Video signal by using Video input level selection.

5.5.2 Sync Signal level

- H/V Separate, H/V Mixed: TTL level
- Sync on Green: 0.3 V p-p $\pm 0.015 \text{ V}$

5.5.3 Input impedance

- Video input: 75 Ω
- Sync input: $\geq 1 \text{ k}\Omega$

5.6 Display performance

5.6.1 Display area

1) PRESET TIMING

MODE 1

WIDTH: $300 \text{ mm} \pm 5 \text{ mm}$

HEIGHT: $225 \text{ mm} \pm 5 \text{ mm}$

2) RESERVATION TIMING

MODE 2-7

WIDTH: $300 \text{ mm} \pm 7 \text{ mm}$

HEIGHT: $225 \text{ mm} \pm 7 \text{ mm}$

MODE 8

$286 \text{ mm} \pm 7 \text{ mm}$

$229 \text{ mm} \pm 7 \text{ mm}$

5.6.2 Centering

1) PRESET TIMING (MODE1)

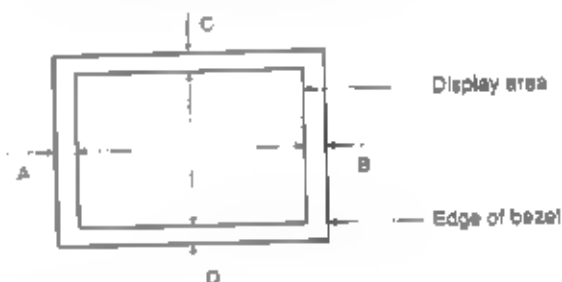
$|A - B| \leq 4 \text{ mm}$

$|C - D| \leq 4 \text{ mm}$

2) RESERVATION TIMING (MODE2-8)

$|A - B| \leq 7 \text{ mm}$

$|C - D| \leq 7 \text{ mm}$



5.6.3 Distortion

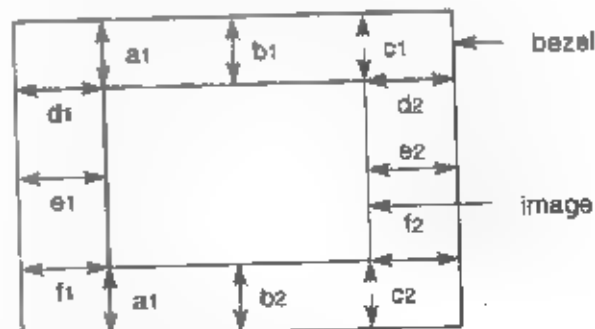
Combined distortion

$|a_1 - b_1|, |b_1 - c_1|, |c_1 - a_1| \leq 2.5 \text{ mm}$

$|a_2 - b_2|, |b_2 - c_2|, |c_2 - a_2| \leq 2.5 \text{ mm}$

$|d_1 - e_1|, |e_1 - f_1|, |f_1 - d_1| \leq 2.5 \text{ mm}$

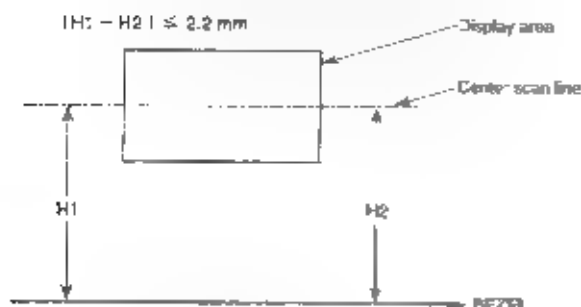
$|d_2 - e_2|, |e_2 - f_2|, |f_2 - d_2| \leq 2.5 \text{ mm}$



- Test condition: 7.1 Standard Condition
- Image Size: 300 x 225 mm
- User control: AS Shipped

5.6.4 Rotation

$$|H1 - H2| \leq 2.5 \text{ mm} \\ \leq 0 \text{ mm (after user adjustment)}$$



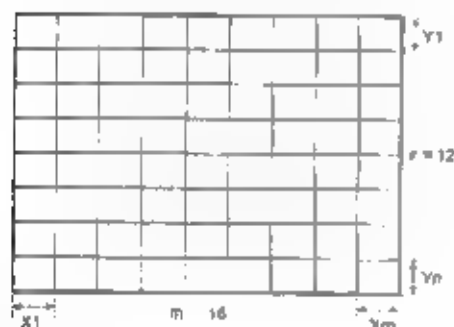
5.6.5 Linearity

Horizontal linearity

$$= \frac{X_{\max} - X_{\min}}{X_{\max} + X_{\min}} \times 100\% \leq 5\% (42 - 64 \text{ kHz}) \\ \leq 7\% (\text{except above frequency range})$$

Vertical linearity

$$= \frac{Y_{\max} - Y_{\min}}{Y_{\max} + Y_{\min}} \times 100\% \leq 5\% (60 - 75 \text{ Hz}) \\ \leq 7\% (\text{except above frequency range})$$



<Conditions>

Display image : crosshatch pattern

Maximum and minimum values should not be adjacent to each other.

X max. is maximum value among X1~Xn

X min. is minimum value among X1~Xn

Y max. is maximum value among Y1~Yn

Y min. is minimum value among Y1~Yn

5.7 General performance

5.7.1 Video output

Bandwidth	86 MHz (Typ.)
-----------	---------------

5.7.2 Maximum luminance

Value	120 cd/m ² (Typ.) for 5% white field at the center of the display area. 103 cd/m ² (Typ.) for 100% white field at the center of the display area. Specified by 9300 K + 8 MPCD
Conditions	Display image : White full flat field Luminance : Max. (Contrast : Max.) (Brightness : CENTER point)

5.7.3 Minimum luminance

Value	≤ 26 cd/m ² at the center of the display area. Specified by 9300 K + 8 MPCD
Conditions	Display image : White full flat field Luminance : Min. (Contrast : Min.) (Brightness : CENTER point)

5.7.4 Brightness variation

Value	70 % (Min.) Variation = $C/A \times 100$
Conditions	Display image : White flat field Luminance : MAX (Contrast : MAX) (Brightness : Detent point) A : Luminance at center position C : Luminance at position of lowest brightness

5.7.5 Display area regulation

	Display area variation	Range of variation
Due to Luminance	within 1.0 %	26-103 cd/m ² (white flat field)
Due to Power Supply	within 0.5 %	AC : 90 - 132 V or 198 - 264 V
Due to Temperature	within 1.0 %	20° C ± 20° C

5.7.6 Color Point

< Conditions >

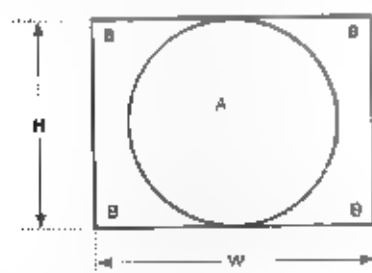
Display image : White flat field at the center of the display area

Luminance : Brightness Detent point.

Contrast	max	min
Value	9300 K + 8 MPCD $x = 0.283 \pm 0.020$ $y = 0.298 \pm 0.020$	9300 K + 8 MPCD $x = 0.283 \pm 0.020$ $y = 0.298 \pm 0.020$

5.7.7 Misconvergence

Center area of display (A) : 0.3 mm (Max.)
 Corner area of display (B) : 0.4 mm (Max.)



< Conditions >

Display image : Crosshatch pattern mixed with R, G and B colors.

Convergence gauge : KLEIN CM7AG or equivalent.

Display area : W x H 300 x 225 mm

5.7.8 Purity

Conspicuous mistaking shall not be visible within display area at a distance of 60cm from CRT surface

< Conditions >

Display image : Red/Green/Blue flat field

Luminance : Contrast max,
Brightness CENTER

Display area : 300 x 225 mm

5.7.9 White Uniformity

$x_a - x_c \leq \pm 0.015$

$y_a - y_c \leq \pm 0.015$

x_a : x coordinate at the CRT center

x_c : x coordinate at any other point;

y_a : y coordinate at the CRT center

y_c : y coordinate at any other point

< Conditions >

Display image : White flat field

Luminance : 103 cd/m² at the center of display area

Display area : 300 x 225 mm

5.7.10 Jitter

Inv sible at a distance of 60 cm from CRT surface

6. ENVIRONMENTS

6.1 Ambient temperature, humidity and altitude

	Operating	Storage and shipment
Temperature	0 ~ 40° C (32 ~ 104° F)	-20 ~ +60° C (-4 ~ 140° F)
Humidity	5 ~ 90 % *	5 ~ 90 % *
Altitude	3,000 m (Max.) (10,000 ft)	12,000 m (Max.) (40,000 ft)

* Non-condensation

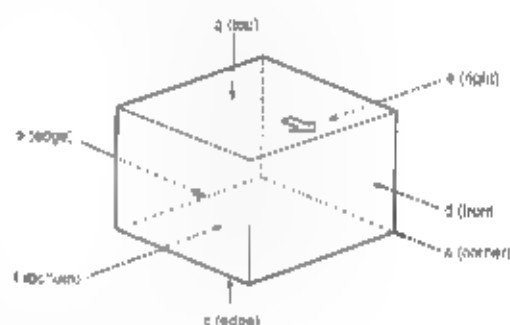
6.2 Vibration and shock

6.2.1 Vibration

	Order of tests	Direction of vibration	Acceleration		Frequency	Sweep	Test time
			Non operation	Storage and shipment			
Unpacked	1	Vertical	Up to down	2.9 m/s ² (0.3 G)	5 - 55 Hz	120 s	30 min.
	2	Horizontal	Front to back				15 min.
	3		Right to left				
Packed	1	Vertical	Up to down	12.3 m/s ² (1.0 G)	5 - 50 Hz	810 s Log sweep	40 min.
	2	Horizontal	Front to back	7.4 m/s ² (0.5 G)			20 min.
	3		Right to left				

6.2.2 Shock (Drop test)

Unpacked	20 G One time for each face (6 faces) (non-operation)			
	Order of drop	Face to drop is to face the floor (See the figure)	Height	Number of drop
Packed	1	a, b, c, d, e, g	60 cm	1 time for each
	2	f	70 cm	



7. REGULATORY STANDARDS

7.1 Safety standards

Applicable standards

- UL 1950 : Listing
- CSA 22.2 No. 950 : Certification
- TÜV EN60950 (IEC-950) / GS (ZH1)
- NORDIC (SEMKO, NEMKO, DEMKO, FIMKO)
- Energy Star

CE Marking

<EMC test pattern>

White, full "H" characters (9 x 14 dots), block (12 x 24 dots)

7.2 X-Ray standards

Applicable standards

- DHHS, 21CFR subchapter J
- PTB : (Self Protected CRT)
- HC

7.3 EMC standards

Applicable standards

- VCCI class 2
- FCC part 15, subpart B, class B
- IC class B
- CISPR22 class B (EN55022)

8. POWER CORD

- Northern Hemisphere Version (North America and Japan)

... UL/CSA approved power cord (Wall Type)

- European Version

... VDE approved power cord (PC Type)

9. SIGNAL CABLE

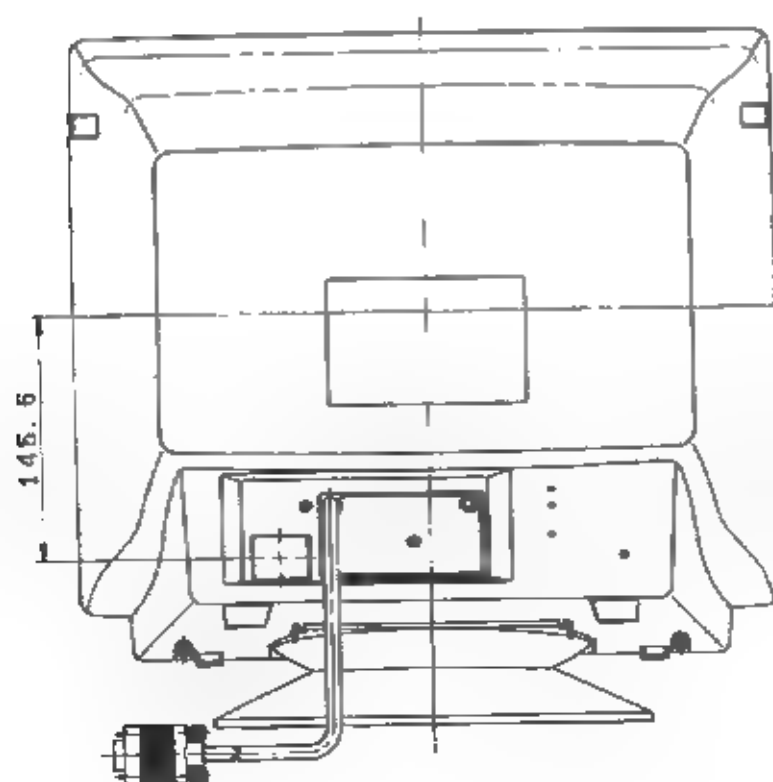
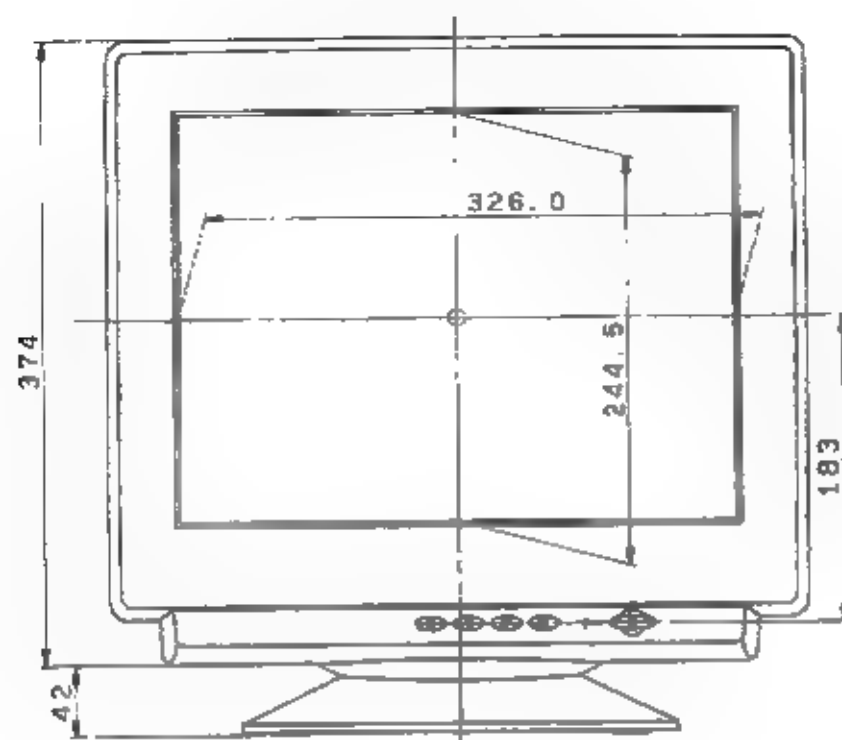
Un-detachable signal cable with Mini D Sub 15P connectors is installed in the monitor.

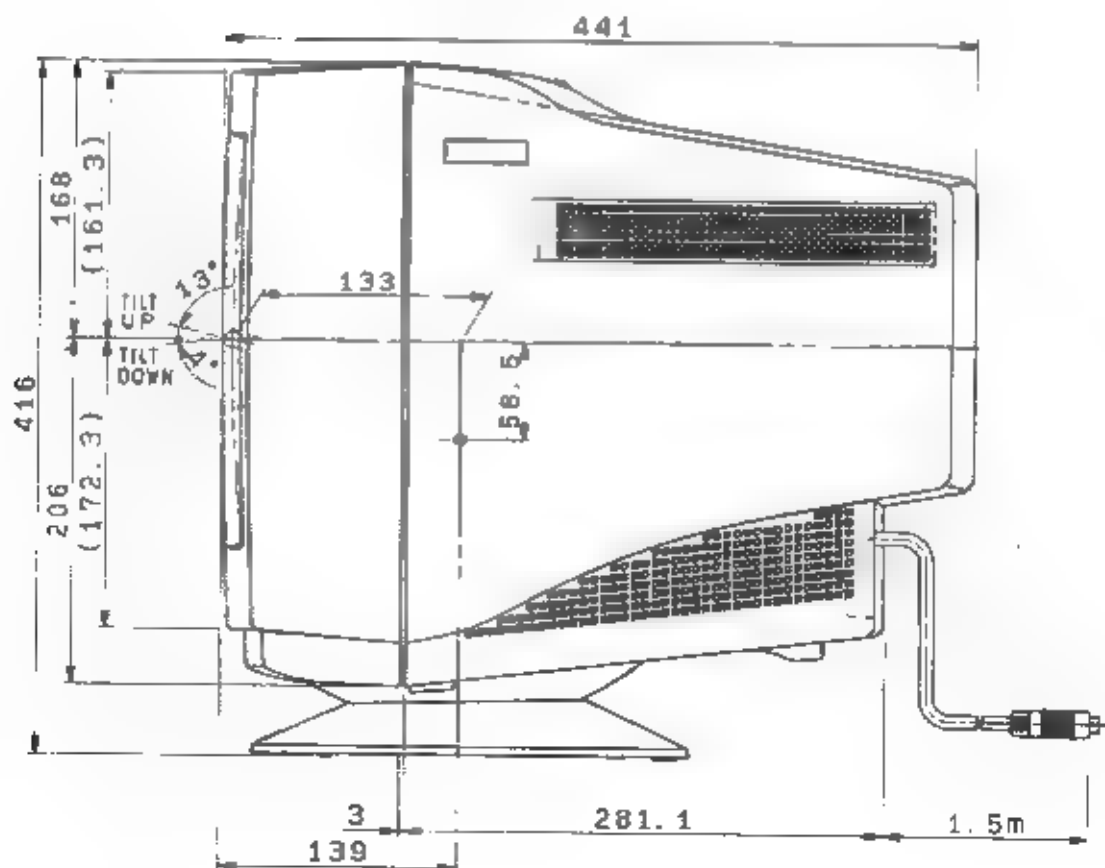
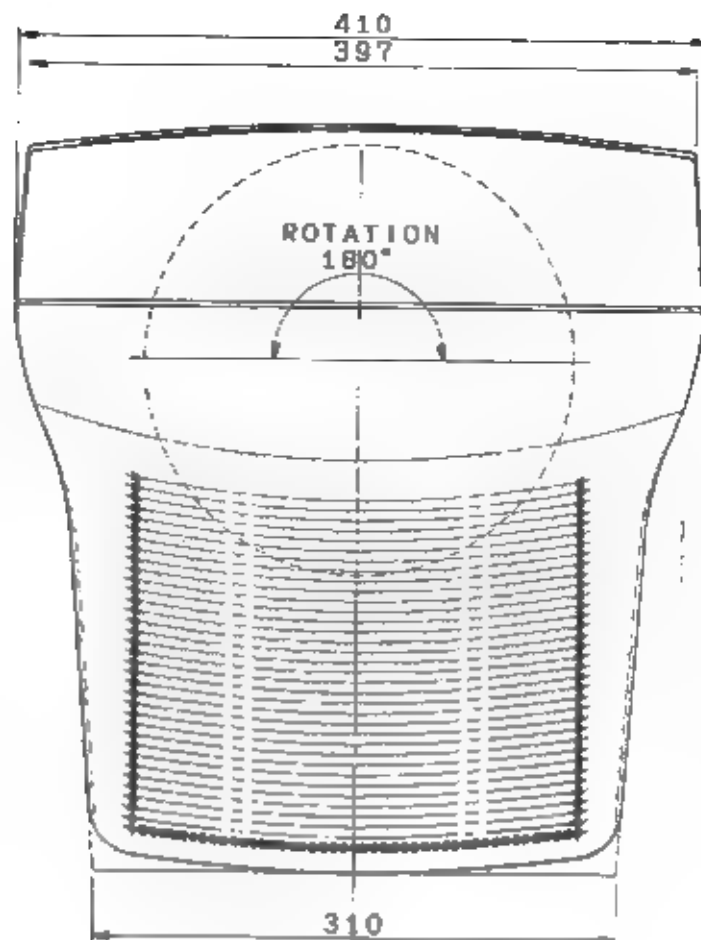
Length : 1.5 meter (4.93 feet)

10. RELIABILITY

> 55,000 hrs (demonstrated MTBF)

DIMENSIONS





REQUIRED ADJUSTMENT PROCEDURE AFTER A PARTS ■ REPLACED (✓ IS REQUIRED)

ADJUSTMENT ITEM	REPLACED PARTS															
	MAIN P.C.B.	CTL P.C.B.	VIDEO P.C.B.	CRT DY	IC1301 IC1302 IC1401	Q1051 Q1052 Q1151 Q1152 Q1251 Q1252	IC401	IC501	Q673 Q674 Q675	Q581 Q582	IC521 Q521	Q522 Q551 F8T	IC821 Q821 T821	IC104	IC101	IC802
A DATA SETTING *	✓	✓														✓
B +B ADJUST	✓	✓											✓			✓
C H. DRIVE DUTY	✓	✓						✓						✓		✓
D H. DRIVE +B	✓	✓						✓	✓		✓			✓		✓
E EHT	✓	✓										✓				✓
F H. CENTER	✓	✓										✓		✓		✓
G H.V. SIZE / POSI V.PCC (1)	✓	✓					✓	✓			✓					✓
H V. LIN (C)	✓	✓					✓					✓		✓		✓
I H.V. SIZE / POSI V.PCC (2)	✓	✓										✓				✓
J BRIGHTNESS COLOR	✓	✓	✓	✓								✓				✓
K FOCUS	✓	✓										✓				✓
L FINAL TUNE	✓	✓	✓	✓	✓	✓								✓	✓	✓
M DATA SAVING	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓			
PURITY & CONVERGENCE				✓												
SCREEN CHECK	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓

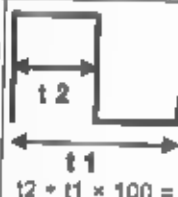
* (A) DATA SETTING : Do not load standard data except when main PCB (With CTL PCB) and IC802[EEPROM] are replaced.

CTL. PCB = Micro controller and DAC PCB.

ADJUSTMENT PROCEDURE

1. Description of Adjustment Method

Program Menu Item		◇ Test Meter ▼ Test Point □ Pattern	JOB CODE	Input Signal	Operation	Adjusting Value	
A	STANDARD DATA SETTING 1) Load data from FILE	▼ D864 - GND Refer to service adjustment control location on page 23	A1 A2 A3 A4 AE		Do not connect the power and signal cable to monitor. Apply 15V to D864 CATHODE and GND. (Do not apply 5V to IC101. Because IC862 will supply the 5V and RESET signal to IC101) Set the cell to the program menu item at left and press . A message FILE → EEPROM FILE NAME (H or Q escape)]: is displayed. So type in "DACDATA.DAT" (when using the standard data) and press . Disconnect 15V cable, then turn on the power switch of the monitor.		
	Do not load standard data except when Main P.C.B. and EEPROM are replaced.						
	B	+B ADJUST	◇ Digital voltmeter ▼ TP4 - GND □ RGB OFF (SYNC ONLY)	B1 B2	HV7-1	Check that the input signal to the monitor is (H 29.5KHz) and (V 48.0Hz). Make the adjustment to the value shown at right by turning the VR881 on the main PCB.	80V ±0.5V
		C	H. DRIVE DUTY 2) Adjust VSR setting	◇ Oscilloscope ▼ TP3 - GND □ Crosshatch <div>Oscilloscope Range</div> HV7-1 10ps/div. HV7-2 5ps/div. HV7-3 5ps/div. HV7-4 2ps/div.	C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 CE	HV7-1 HV7-2 HV7-3 HV7-4	Set the cell to the program menu item at left and press . Set the cell to the adjusting mode [INTP [0] and press . Check that the input signal to the monitor is (H 29.5KHz) and (V 48.0Hz) and press . Set the cell to H. DRIVE DUTY and press . Make the adjustment to the value shown at right by using and . Register by pressing and return to program menu item of C2 by pressing . Input signal (H 39.0KHz) and (V 77.1Hz) Select Adjusting mode [INTP [1], and repeat above (C3 - C6) procedures. Input signal (H 54.0KHz) and (V 105.0Hz) Select Adjusting mode [INTP [2], and repeat above (C3 - C6) procedures. Input signal (H 70.0KHz) and (V 165.0Hz) Select Adjusting mode [INTP [3], and repeat above (C3 - C6) procedures. Press to return to main menu.



Note 1 : Check to be sure that the program disk name is V773 before making necessary adjustment.

Note 2 : Unless otherwise specified, the monitor state is as given at right.

Program Menu Item	<input type="checkbox"/> Test Meter <input type="checkbox"/> Test Point <input type="checkbox"/> Pattern	JOB CODE	Input Signal	Operation	Adjusting Value
D H. DRIVE +B 2) Adjust VSR setting	<input type="checkbox"/> Digital voltmeter <input type="checkbox"/> TP2 ~ GND <input type="checkbox"/> Crosshatch	D1	HV7-1	Set the cell to the program menu item at left and press	20.5V ±0.5V
		D2		Set the cell to the adjusting mode <u>INTP [0]</u> and press	
		D3		Check that the input signal the monitor is [FH 29.5KHz] and [fV 48.0Hz] and press	
		D4		Set the cell to <u>H. DRIVE +B</u> and press	
		D5		Make the adjustment to the value shown right by using and	
		D6		Register by press and return to menu of D2 by press	
		D7	HV7-2	Input signal [fH 39.0KHz] and [fV 77.1Hz]	19.0V ±0.5V
		D8		Select Adjusting mode <u>INTP [1]</u> , and repeat above (D3 ~ D6) procedures.	
		D9	HV7-3	Input signal [fH 54.0KHz] and [fV 105.0Hz]	17.0V ±0.5V
		D10		Select Adjusting mode <u>INTP [2]</u> , and repeat above (D3 ~ D6) procedures.	
		D11	HV7-4	Input signal [fH 70.0KHz] and [fV 165.0Hz]	14.5V ±0.5V
		D12		Select Adjusting mode <u>INTP [3]</u> , and repeat above (D3 ~ D6) procedures	
		DE		Press to return to main menu.	
E EHT ADJUST 2) Adjust VSR setting 7) Special ADJUST 8: CALCULATE H.OUT +B	<input type="checkbox"/> Digital voltmeter <input type="checkbox"/> TP1 ~ GND <input type="checkbox"/> RGB off (Sync only)	E1	HV7-4	Set the cell to the program menu item at left and press	150.0V ±0.5V
		E2		Set the cell to the adjusting mode <u>INTP[3]</u> and press	
		E3		Check that the input signal to the monitor is [fH 70.0KHz] and [fV 165.0Hz] and press	
		E4		Move the cell to <u>H.OUT +B</u> and press	
		E5		Make adjustment to the value shown at right by using and	
		E6		Register by pressing and return to the main menu by pressing	
		E7		Set the cell to the program menu item at left and press	
		E8		Select the 8: <u>CALCULATE H.OUT +B</u> from the menu This message will appear : +B Data Calculated . Hit Return Key !	
		E9		Press to return to menu of E8.	
		EE		Press to return to the main menu.	
F H. CENTER	<input type="checkbox"/> RGB off (Sync only)	F1	Mode-1	Set the Brightness to MAX on the OSD.	<div style="border: 1px solid black; padding: 5px; text-align: center;"> A A=B B Back raster </div>
		F2		Check that the input signal to the monitor is [fH 60.0KHz] and [fV 75.0Hz].	
		F3		Make the adjustment as shown at right by turning the VR581 on the main PCB.	
					Set the raster to the center with respect to the bezel.

Program Menu Item	◆ Test Meter ▼ Test Point □ Pattern	JOB CODE	Input Signal	Operation	Adjusting Value
H/V. SIZE, POSI and V. PCC (1) 4) Adjust Factory preset	<input type="checkbox"/> Crosshatch	G1		Set the cell to the program menu item at left and press [F4]	H : 300mm ±5 V : 225mm ±5 H/V Posi : Center V. PCC : Best point
		G2	Mode-1	Check that the input signal to the monitor is [H 60.0KHz] and [V 75.0Hz] and press [F4]	
		G3		Set the cell to following items, press [F4] and make the adjustments to the values shown at right by using [F5] and [F6] ① <u>H. SIZE</u> ② <u>H. POSI</u> ③ <u>V. SIZE</u> ④ <u>V. POSI</u> ⑤ <u>V. PCC</u> ⑥ <u>V. PCC PARALLELOGRAM</u> ⑦ <u>V. PCC TRAPEZOID</u>	
		GE		After adjustment, return to the main menu by using [F5] and [F6]	
V. LIN (C) 3) Adjust STD setting	<input type="checkbox"/> Crosshatch	H1		Set the cell to the program menu item at left and press [F4]	
		H2	Mode-1	Check that the input signal to the monitor is [H 60.0KHz] and [V 75.0Hz] and press [F4]	
		H3		Set the cell to <u>V. LIN C</u> and press [F4] make the adjustment to the best point by using [F5] and [F6]	
		HE		After adjustment, return to the main menu by using [F5]	
H/V. SIZE, POSI and V. PCC (2) 2) Adjust VSR Setting	<input type="checkbox"/> Crosshatch	I1		Set the cell to the program menu item at left and press [F4]	H : 300mm ±5 V : 225mm ±5 H/V Posi : Center V. PCC : V. LIN : Best point
		I2		Set the cell to the adjusting mode [NTP (0)] and press [F4]	
		I3	HV7-1	Check that the input signal to the monitor is [H 29.5KHz] and [V 48.0Hz] and press [F4]	
		I4		Set the cell to following items, press [F4] and make the adjustments to the values shown at right by using [F5] and [F6] ① <u>H. SIZE</u> ② <u>H. POSI</u> ③ <u>V. SIZE</u> ④ <u>V. POSI</u> ⑤ <u>V. PCC</u> ⑥ <u>V. LIN (S)</u>	
		I5		After adjusting the above, return to menu of [F4] by using [F5]	
		I6	HV7-2	Input signal [H 39.0KHz] and [V 77.1Hz]	
		I7		Select Adjusting mode [NTP (1)], and repeat above (I3 ~ I5) procedures.	
		I8	HV7-3	Input signal [H 54.0KHz] and [V 105.0Hz]	
		I9		Select Adjusting mode [NTP (2)], and repeat above (I3 ~ I5) procedures.	
		I10	HV7-4	Input signal [H 70.0KHz] and [V 165.0Hz]	
		I11		Select Adjusting mode [NTP (3)], and repeat above (I3 ~ I5) procedures.	
		IE		After adjustment, return to the main menu by press [F5]	

ITEM Program Menu	◇ Test Meter ▼ Test Point □ Pattern	JOB CODE	Input Signal	Operation	Adjusting Value	
CRT CUT-OFF 7) Special ADJUST 1. 9300K COLOR Adjust	◇ TV Color Analyzer II □ RGB Off (Sync only)	J1	Mode-1	Set the Contrast to MAX, Brightness to Center and Color in 9300k using the OSD.		
		J2		Check that the input signal to the monitor is [f=160.0KHz], [V=75.0Hz] and turn off the RGB signal		
		J3		Set the cell to the menu at left and press		
		J4		Select 1. 9300K COLOR Adjust from the menu.		
		J5		Make the adjustment R,G and Low Light by using and Screen VR to CRT cut-off.		
		J14		Please refer to flow chart for this adjustment on page 18.		
	BRIGHTNESS COLOR ADJUST	□ White window (5cm×5cm at center)	J15		Change to the pattern at left	Y=130 cd/m ² x=0.283 ±0.20 y=0.298 ±0.20
			J16		Move the cell to the following items and make the adjustment to the value shown at right by using and	
					<u>R. SUB CONT 9300K</u> <u>G. SUB CONT 9300K</u> <u>B. SUB CONT 9300K</u>	
			J17		Set Contrast to MIN using the OSD.	
			J18		Move the cell to the following items and make the adjustment to the value shown at right by using and	
					<u>R. LOW LIGHT 9300K</u> <u>G. LOW LIGHT 9300K</u> <u>B. LOW LIGHT 9300K</u>	
					Adjust two colors only out of above three as shown in J13 on page 18.	
			ABL		□ White flat field (full window)	
	J20	Move the cell to <u>ABL</u> and make the adjustment to the value shown at right by using and .				
	J21	Press to return to menu of J4				
1.0V ADJUST	□ White window (5cm×5cm at center) 1.0V p-p video*	J22		Change the pattern at left.*	Y=130 cd/m ²	
		J23		Set the cell to the menu at left and press .		
		J24		Select the 4 VIDEO 1.0Vpp ADJUST from the menu.		
		J25		Set Input Video Level 1.0V using the OSD of the monitor		
		J26		Make the adjustment to the value shown at right by using and .		
		J27		Press to return to menu of J24		
		J28		Select the 7. BRIGHTNESS LIMIT SETTING from the menu.		
DATA SETTING		JE		Press to return to menu of J28 and Press to return to the main menu.		

Should make Final Tune after this adjustment refer to item L on page 19.

WARNING

Do not turn the screen VR after this adjustment.

CRT CUT-OFF ADJUSTMENT

J5 Set Screen-VR fully counterclockwise (Min).

J6 Set data value to "85" for R, G, B Low Light

J7 Set data value to "80" for BRIGHTNESS

J8 Turn screen VR until the raster appears with any one of three (R, G, B) colors

Conditions

Signal : Turn off the R, G, B (sync signal only)

Adjust Menu : 7) Special Adjust

Sub Menu : 1: 9300K COLOR Adjust

If Red appears in J8

J9 Set Value to "00" for
< R, Low Light 9300K >

J10 Turn Screen-VR until the raster appears with any one of two (G or B) colors.

If Green appears in J10

J11 Set Value to "00" for
< G, Low Light 9300K >

J12 Adjust Screen-VR to "0.48" cd/m² for Blue raster

J13 Adjust
< R, Low Light 9300K >
< G, Low Light 9300K >
to { x=0.281 y=0.311 }

If Green appears in J8

J9 Set Value to "00" for
< G, Low Light 9300K >

J10 Turn Screen-VR until the raster appears with any one of two (R or B) colors.

If Blue appears in J10

J11 Set Value to "00" for
< B, Low Light 9300K >

J12 Adjust Screen-VR to "0.48" cd/m² for Red raster

J13 Adjust
< R, Low Light 9300K >
< G, Low Light 9300K >
to { x=0.281 y=0.311 }

If Blue appears in J8

J9 Set Value to "00" for
< B, Low Light 9300K >

J10 Turn Screen-VR until the raster appears with any one of two (R or G) colors.

If Green appears in J10

J11 Set Value to "00" for
< G, Low Light 9300K >

J12 Adjust Screen-VR to "0.85" cd/m² for Red raster

J13 Adjust
< R, Low Light 9300K >
< G, Low Light 9300K >
to { x=0.281 y=0.311 }

If Red appears in J10

J11 Set Value to "00" for
< R, Low Light 9300K >

J12 Adjust Screen-VR to "0.85" cd/m² for Green raster


J13 Adjust
< R, Low Light 9300K >
< B, Low Light 9300K >
to { x=0.281 y=0.311 }

J14 Test Pattern : 16 gradation grayscale Adjust Screen-VR so the 2nd level of gray appears slightly.

Program Menu Item		<input type="checkbox"/> Test Meter <input type="checkbox"/> Test Point <input type="checkbox"/> Pattern	JOB CODE	Input Signal	Operation	Adjusting Value
K	FOCUS	<input type="checkbox"/> Character		Mode-1	Check that the input signal to the monitor is [H 60.0kHz] and [V 75.0Hz].	
			K2		Make the corner sections of the screen optimum by turning D-FOCUS VR on the FBT.	
			K3		Make the center section optimum by turning S-FOCUS VR on the FBT.	
			K4		Repeat K2 and K3 to make it optimum.	
L	FINAL TUNE 7) Special ADJUST		L1		Set the cell to the program menu item at left and press	
			L2		Select the <u>9:FINAL TUNE</u> from the program menu item.	
					(Step 1) Data tuning.	
					These messages will appear :	
					<loading EEPROM data> ...end	
					<tuning EEPROM data> ... and	
					<saving data to EEPROM> ... end	
					<RECALL data - PRESET data> wait a moment	
			L3		(Step 2) Erase user preset data.	
					Erase All * user preset data OK ? >	
M	DATA SAVING 6) Save data file				Press or and go to L4.	
			L4		(Step 3) Calculate color data.	
					COLOR 6550K data OK ? >, press and .	
			L5		USER COLOR data OK ? >, press and .	
			L6		ABL data OK ? >, press and .	
					finished . (Hit return key)	
			L7		Press go to L8.	
					(Step 4) Set brightness data and flag.	
					<SET FLAG>	
					wait a moment ... and	
					tune end .	
					Hit return key !	
					Press , return to menu of L2.	
					Press a to return to the main menu.	
			M1		Set the cell to the program menu item at left and press .	
			M2		Key in the file name after [] :.	
					Use serial number as a file name	
					(EXAMPLE : FF5110001 = "F5110001.DAT")	

SCHEMATIC DIAGRAM

IMPORTANT SAFETY NOTICE

The component identified by shading or international symbol  on the following schematic diagrams incorporate special features important for protection from X-Radiation, fire and electrical shock hazards. When servicing it is essential that only manufacturer's specified parts be used for those critical components.

NOTES :

1. RESISTOR

All resistors are Carbon 1/4W resistor, unless otherwise noted by the following marks.
Unit of resistance is ohm (Ω), (K = 1,000, M = 1,000,000)

- | | |
|---|---|
|  : Non Flammable |  : Solid |
|  : Metal Oxide |  : Meta (Precision and high stability) |
|  : Wire Wound |  : Thermistor |
|  : Fusible |  : Positive coefficient Thermistor |
|  : Flame Proof Rectangular | |

2. CAPACITOR

All capacitors are ceramic 50V capacitor, unless otherwise noted by the following marks.
Unit of capacitance is μF , unless otherwise noted.

- | | |
|--|---|
|  : Electrolytic |  : Polyester |
|  : Tantalum |  : Metalized Polyester |
|  : Bipolar |  : Polypropylene |
|  : Polystyrene |  : Mica |
|  : Temperature Compensation |  : Ceramic |
| |  : Ceramic (SL) |

3. COIL

Unit of inductance is μH , unless otherwise noted.

4. VOLTAGE MEASUREMENT

Voltage is measured by a digital meter receiving normal signal.

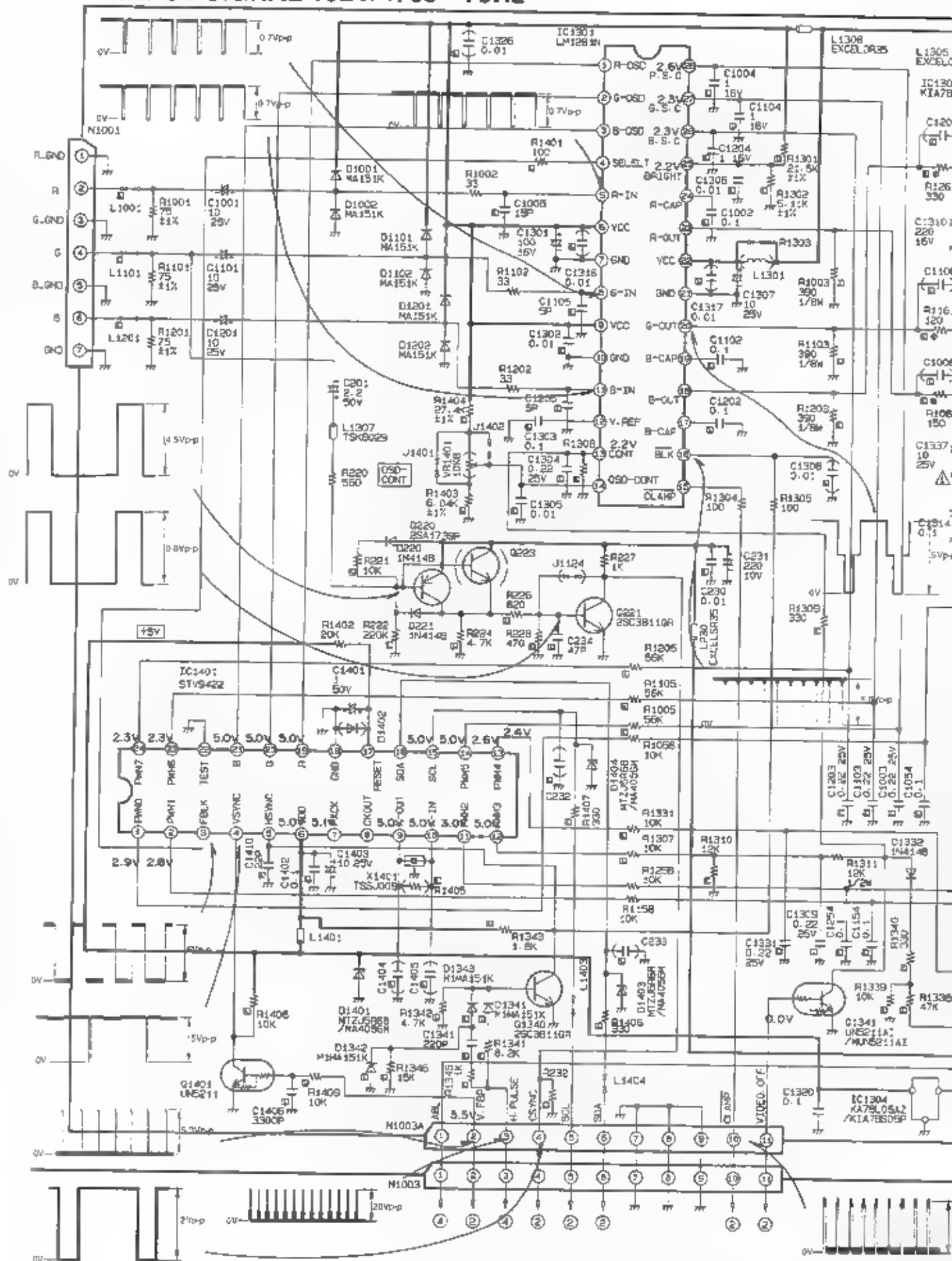
5. This schematic diagram is the latest at the time of printing and is subject to change without notice.

SERVICE NOTES :

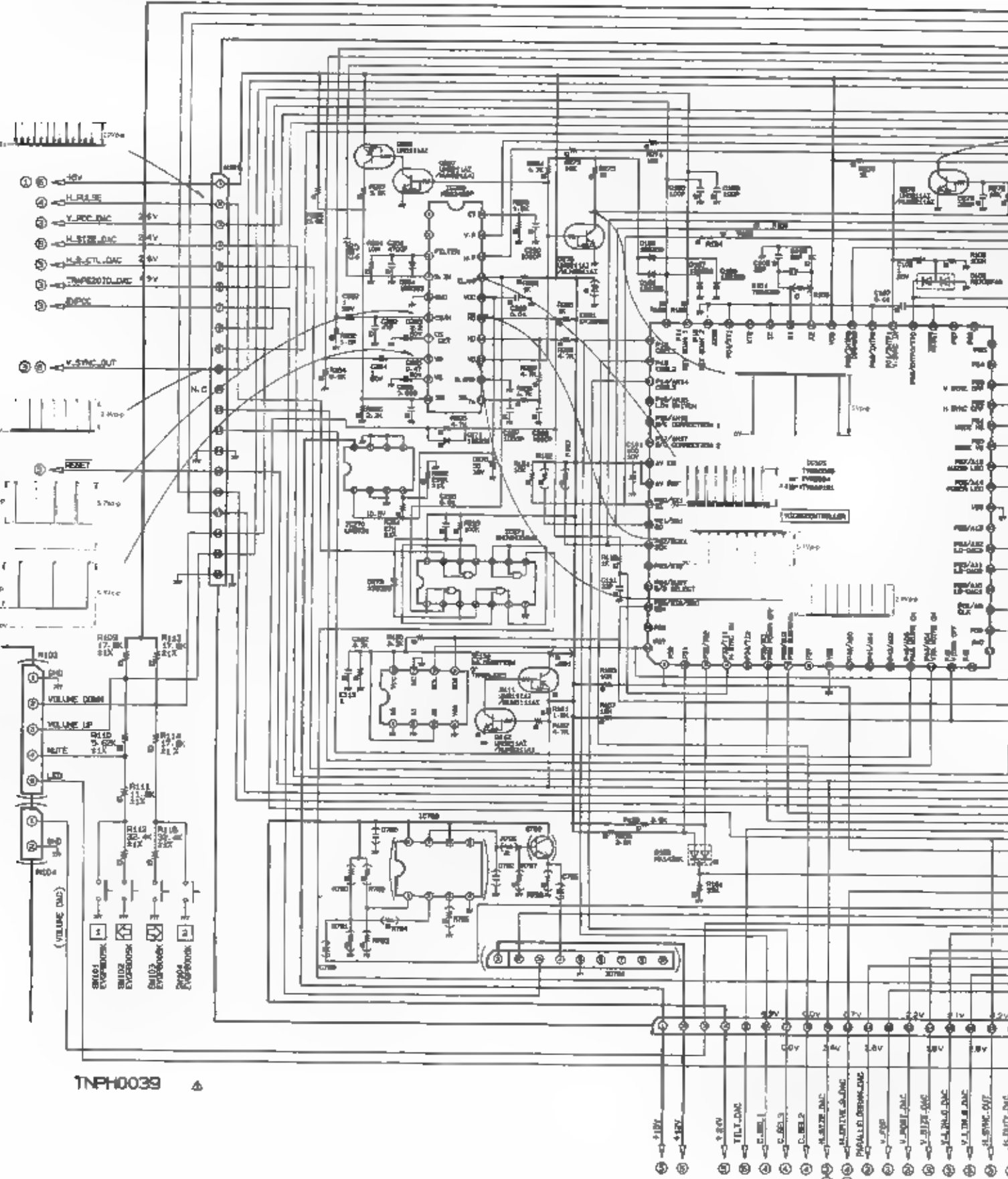
This model has a section that does not share a common ground with the power supply section. The different sections are referred to as the HOT section and the COLD section in the precautions below.

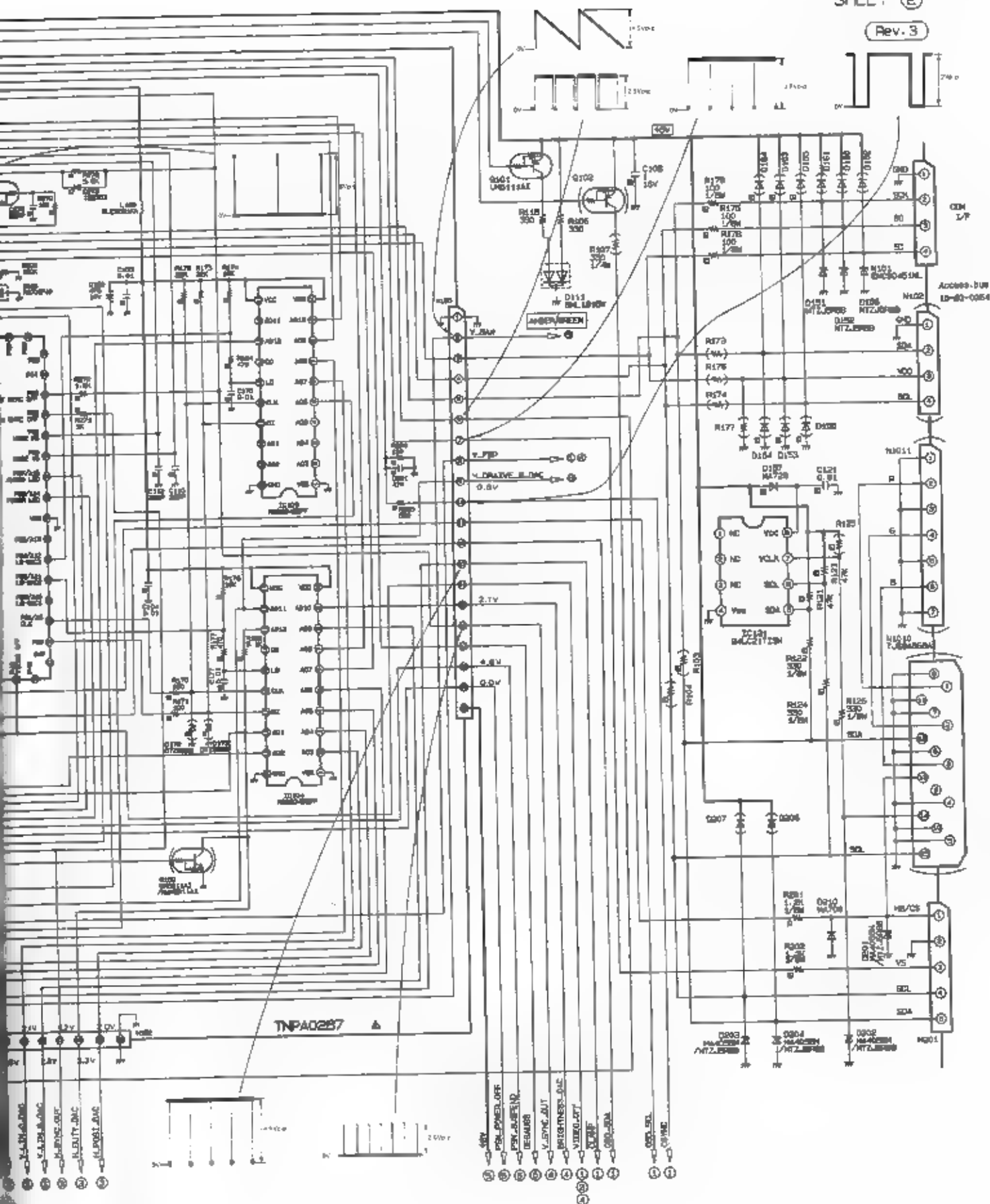
1. Do not touch the HOT section and the COLD section at the same time. You may receive an electric shock.
2. Do not short the HOT section to the COLD section. This could blow the fuse or damage parts.
3. Never measure the HOT section and the COLD section at the same time when using tools such as oscilloscopes or multimeters.
4. Always unplug the unit before beginning any operation such as removing the chassis.

★INPUT SIGNAL 1024×768 75Hz

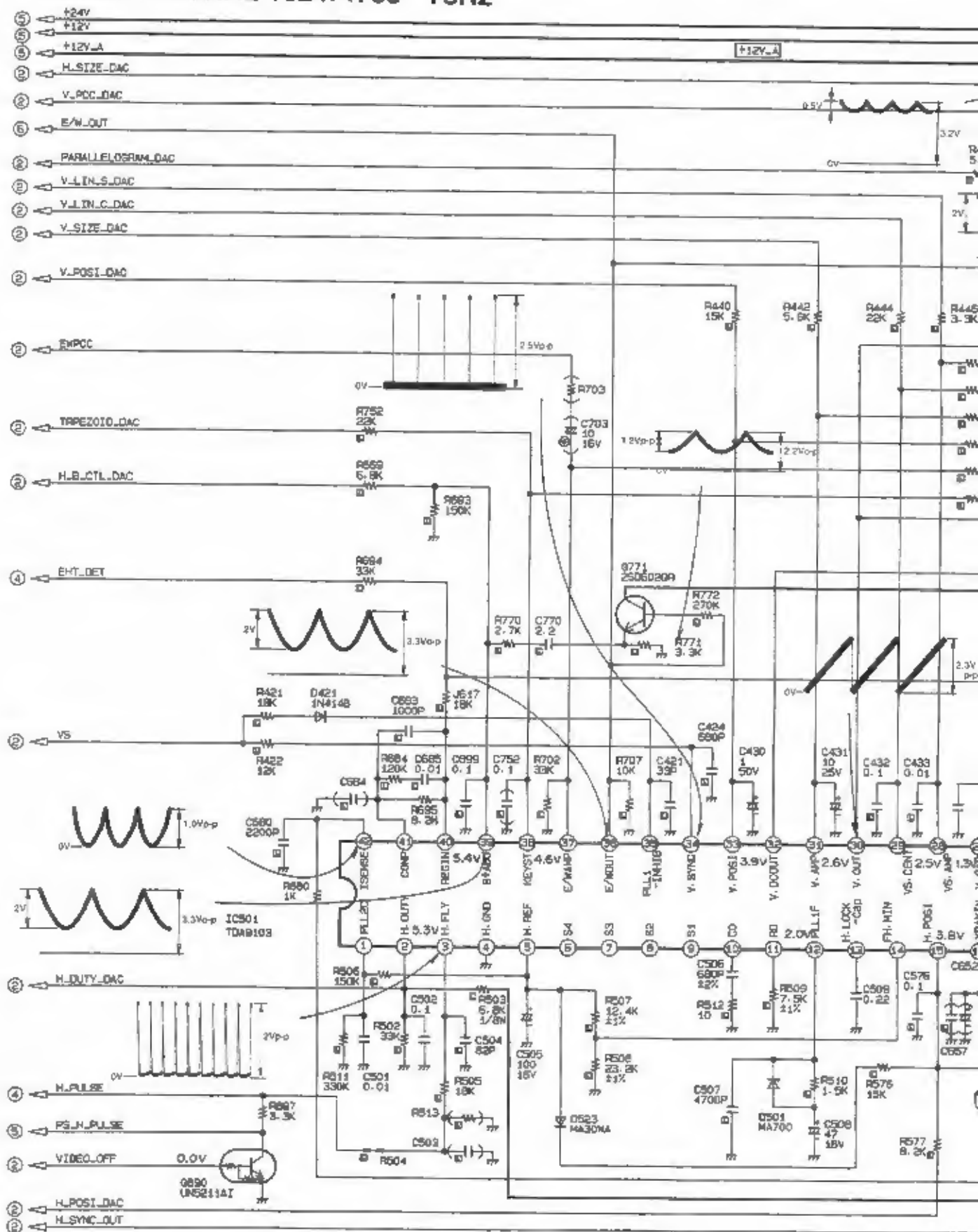


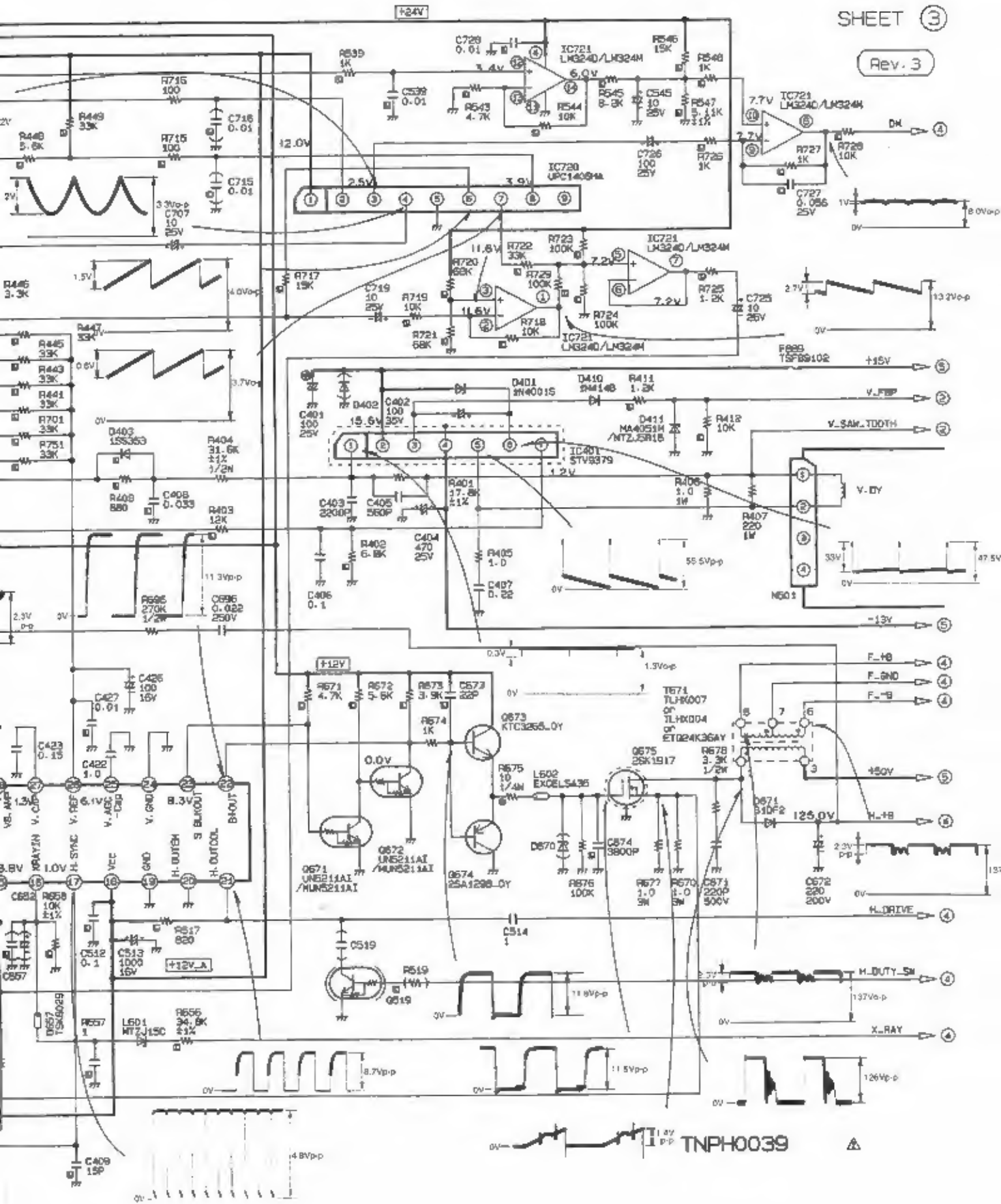
***INPUT SIGNAL 1024×768 75Hz**





***INPUT SIGNAL 1024×768 75Hz**







▲

